CITY OF DES MOINES

PUBLIC IMPROVEMENTS
CONTRACT DOCUMENTS

WESTERN INGERSOLL RUN SEWER SEPARATION PHASE 3

ACTIVITY ID
072021002

PLAN FILE NO.
642-001/140

CITY COUNCIL APPROVAL

APPROVAL DATE
May 9, 2022

ROLL CALL NO.

CONTRACT NO.

CONTRACTOR

CONTRACT AMOUNT
$

ENGINEERING DEPARTMENT
Steven L. Neber, P.E.
Des Moines City Engineer

Funding Information
Object Code
521020
Organization No
E104PW
Project No
SS139
ENGINNEERING DEPARTMENT  
CITY OF DES MOINES, IOWA  

Western Ingersoll Run Sewer Separation Phase 3  

Activity ID 072021002  

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  
SRF Required Front-End Specifications  
Technical Specifications  

Supplemental Specifications:  
General Supplemental Specifications to SUDAS, 2022 Edition March 21, 2022  
Supplemental Specification for Traffic Signage September 20, 2021  
Supplemental Specification for Tree Protection March 24, 2017  
Supplemental Specification for Water Services April 1, 2014  

PROJECT ENGINEER: Justin Miller, P.E.  
Phone Number: (515) 283-4933  

Index  
ACTIVITY ID 072021002
INSTRUCTIONS TO BIDDERS

Activity ID 072021002
Project Name Western Ingersoll Run Sewer Separation Phase 3
Fed/St. Project No. 

The work comprising the above referenced project shall be constructed in accordance with the SUDAS Standard Specifications, 2022 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 enclosed Bid Bond form (DSM Urban 04/20/98) 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 IDENTIY 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 that its proposal is delivered to the Jurisdiction prior to the time for opening bids, along with the appropriate bid security sealed in the 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. Bidders must either utilize the two envelopes provided with the Bidding documents, or Bidders provide their own two envelopes, for their proposals and bid security for 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:

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION OF ATTACHMENT</th>
</tr>
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<tr>
<td>1.</td>
<td>Reciprocal Resident Bidder and Labor Force</td>
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<td>General</td>
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<td>4.</td>
<td>Certification of Nonsegregated Facilities</td>
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<td>Certification Regarding Debarment, Suspension, and other Responsibility Matters</td>
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<td>Disadvantaged Business Enterprise (DBE) Solicitation</td>
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<td>United States Environmental Protection Agency, Disadvantaged Business Enterprise Program, DBE Subcontractor Performance Form</td>
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<td>8.</td>
<td>United States Environmental Protection Agency, Disadvantaged Business Enterprise Program, DBE Subcontractor Utilization Form</td>
</tr>
<tr>
<td>9.</td>
<td>United States Environmental Protection Agency, Prohibition on Certain Telecommunications and Video Surveillance or Equipment Form</td>
</tr>
</tbody>
</table>

- 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, 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 as printed. 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 website at <http://www.dmgov.org/Departments/Engineering/Pages/BidsContracts.aspx>.
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.

309-6001 02-14
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 April 5, 2022, 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 April 5, 2022, 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 May 9, 2022. 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 March 21, 2022, 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.
Western Ingersoll Run Sewer Separation Phase 3, 072021002

The improvements include 15-inch to 36-inch storm sewer pipe, 24-inch to 30-inch trenchless storm sewer pipe, storm sewer manholes, storm sewer intakes, sanitary sewer spot repairs, sanitary service adjustments, water main alterations, water services, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete (PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, pavement markings, erosion control, and other incidental items; all in accordance with the contract documents, including Plan File No. 642-001/140, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA.

This project shall be fully completed not later than April 26, 2024, and in accordance with the Completion Provisions.

Engineer's Construction Estimate. $5,400,000.00

Preletting Conference.
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 May 9, 2022, 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 May 9, 2022 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

Western Ingersoll Run Sewe: Separation Phase 3, 072021002

The improvements include 15-inch to 36-inch storm sewer pipe, 24-inch to 30-inch trenchless storm sewer pipe, storm sewer manholes, storm sewer intakes, sanitary sewer spot repairs, sanitary service adjustments, water main alterations, water services, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete (PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, pavement markings, erosion control, and other incidental items; all in accordance with the contract documents, including Plan File No. 642-001/140, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA

Published in the Des Moines Register
April 20, 2022
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 Western Ingersoll Run Sewer Separation Phase 3, Activity ID 07-2021-002.

located in

<table>
<thead>
<tr>
<th>Section</th>
<th>Township</th>
<th>Range</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 1/4 Sec. 6, T78N, R24W, Polk County</td>
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<tr>
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<td>NE 1/4 Sec. 7, T78N, R24W, Polk County</td>
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<td></td>
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</table>

Storm water will be discharged from ______ point source and will be discharged to the following stream: ______ Raccoon 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, 50315-0034. 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 ______

March 23, 2022
**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:

Western Ingersoll Run Sewer Separation Phase 3, 072021002

The improvements include 15-inch to 36-inch storm sewer pipe, 24-inch to 30-inch trenchless storm sewer pipe, storm sewer manholes, storm sewer intakes, sanitary sewer spot repairs, sanitary service adjustments, water main alterations, water services, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete (PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, pavement markings, erosion control, and other incidental items; all in accordance with the contract documents, including Plan File No. 642-001/140, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA

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 April 26, 2024, and in accordance with the Completion Provisions; and to pay liquidated damages for noncompliance with said completion provisions at the rate of Five Hundred and 00/100 ($500.00) for each calendar day thereafter that the work remains incomplete.

PROPOSAL: PART E - NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

PROPOSAL: Western Ingersoll Run Sewer Separation Phase 3
Activity ID 072021302
RETURN WITH BID
Page 2 of 24 Pages
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 requirements listed below, which are included in this proposal and identified as proposal attachments:

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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 for registration 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.
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.

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<th>QUANTITY</th>
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<tr>
<td>1</td>
<td>CLEARING AND GRUBBING</td>
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<td>TOPSOIL, OFFSITE</td>
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<td>3</td>
<td>EXCAVATION, CLASS 10</td>
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<td>13</td>
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PROPOSAL: Western Ingerson Sewer Separation Phase 3
Activity ID 072021002

RETURN WITH BID
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*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.

☒ 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.

Part B

To be completed by resident bidders

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

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

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

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

You may attach additional sheet(s) if needed.

Part C

To be completed by non-resident bidders

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.

Part D

To be completed by all bidders

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, 2022 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 <http://www.dmgov.org/Departments/Engineering/PDF/Contract%20Compliance%20Program%20(June%202017).pdf> 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 calendar year 2021 is 6.03%, 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.dynamics365portals.us/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 - CERTIFICATION OF NONSEGREGATED FACILITIES
The Bidder must complete Proposal Attachment: Part F-Additional Requirements, Item 4, Certification of Nonsegregated Facilities which is the Iowa Department of Natural Resources, State Revolving Fund Program, U.S. Environmental Protection Agency, Attachment 1, Certification of Nonsegregated Facilities, EPA-7 5720-4.2 dated January 2021. This form must be submitted with the proposal.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 5 - CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The Bidder must complete Proposal Attachment: Part F-Additional Requirements, Item 5, Debarment and Suspensions, Certification Regarding Debarment, Suspension, and Other Responsibility Matters which is the Iowa Department of Natural Resources, State Revolving Fund Program, U.S. Environmental Protection Agency, Attachment 2, Debarment and Suspensions, Certification Regarding Debarment, Suspension, and Other Responsibility Matters, Form EPA Form 5700-49 (11-88) dated January 2021. This form must be submitted with the Proposal.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 6 - DISADVANTAGED BUSINESS ENTERPRISE (DBE) SOLICITATION

The Bidder must complete Proposal Attachment: Part F-Additional Requirements, Item 6, Disadvantaged Business Enterprise (DBE) Solicitation, which is the Iowa Department of Natural Resources, State Revolving Fund Program, Attachment 3, Disadvantaged Business Enterprise (DBE) Solicitation form dated January 2021. This form must be submitted with the Proposal.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 7 - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DISADVANTAGED BUSINESS ENTERPRISE PROGRAM, DBE SUBCONTRACTOR PERFORMANCE FORM

The Bidder must complete Proposal Attachment: Part F - Additional Requirements, Item 7, United States Environmental Protection Agency, Disadvantaged Business Enterprise Program, DBE Subcontractor Performance Form, Attachment 4, EPA Form 6100-3 (DBE Subcontractor Performance Form) dated January 2021. This form must be submitted with the Proposal.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 8 - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DISADVANTAGED BUSINESS ENTERPRISE PROGRAM, DBE SUBCONTRACTOR UTILIZATION FORM

The Bidder must complete Proposal Attachment: Part F - Additional Requirements, Item 8, United States Environmental Protection Agency, Disadvantaged Business Enterprise Program, DBE Subcontractor Utilization Form, Attachment 5, EPA Form 6100-4 (DBE Subcontractor Utilization Form) dated January 2021. This form must be submitted with the Proposal.

PROPOSAL ATTACHMENT: PART F - ADDITIONAL REQUIREMENTS
ITEM 9 - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE OR EQUIPMENT FORM

The Bidder must complete Proposal Attachment: Part F - Additional Requirements, Item 9, United States Environmental Protection Agency, Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment Form, Attachment 10, dated January 2021. This form must be submitted with the Proposal.
PROPOSAL ATTACHMENT: PART F – ADDITIONAL REQUIREMENTS
ITEM 3 – COMPLETION PROVISIONS

The Bidder hereby agrees to:

1. Commence the work on the project on or after the date a written Notice to Proceed is issued by the City and substantially complete the project by April 26, 2024; and to pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each calendar day thereafter.

2. Complete work in compliance with the intermediate completion period as described below.

   **Intermediate Completion Date 1:**
   The Contractor shall complete pavement restoration work in an Area, as described in the plans, no later than Fourteen (14) working days after completion and acceptance of storm sewer pipe and structure installation, unless authorized by the Engineer; and to pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each calendar day thereafter. The Fourteen (14) working days are included in the number of working days identified for each stage below.

   **Intermediate Completion Date 2**

   The Contractor shall complete construction of all work, including all storm sewer, PCC curb and gutter, PCC sidewalk, PCC pavement, Hot Mix Asphalt paving, PCC Driveways, and curb ramp construction, pavement markings, retaining wall, and all associated work by November 23, 2023.

   The following items do not need to be completed for the Intermediate Completion Date. This list includes but is not limited to the following:

   - Surface Restoration

   Liquidated damages for noncompliance with said completion provisions in the amount of one thousand and no/100 dollars ($1,000.00) per calendar day will be assessed for each day after November 23, 2022, that the work is not completed with the above-described Intermediate Completion Date 2 description and items.

   The Contractor shall refer to the J sheets within the construction plans for further information regarding work within Areas.

   **STAGE 1A:** Complete all work as described in the plans at this location within thirty-five (35) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

   **STAGE 1B:** Complete all work as described in the plans at this location within thirty (30) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.
STAGE 1C: Complete all work as described in the plans at this location within thirty (30) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 2: Complete all work as described in the plans at this location within twenty-five (25) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 3A: Complete all work as described in the plans at this location within twenty-five (25) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 3B: Complete all work as described in the plans at this location within twenty-five (25) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 4: Complete all work as described in the plans at this location within thirty (30) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 5A: Complete all work as described in the plans at this location within twenty (20) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 5B: Complete all work as described in the plans at this location within thirty-five (35) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 5C: Complete all work as described in the plans at this location within twenty (20) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

3. Work at two different sites concurrently is allowed in order to substantially complete the project by November 23, 2023 described in the Intermediate Completion Date 2 above; however, working days will continue to be charged for each site once work has started for the site. Concurrent work on multiple sites shall be approved by the Engineer.

4. 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.
Attachment 1

SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid)

U.S. Environmental Protection Agency
Certification of Non-Segregated Facilities

(Applicable to contracts, subcontracts, and agreements with applicants who are themselves performing federally assisted construction contracts, exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or rational original, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A Certification of Non-segregated Facilities, as required by the May 9, 1967, order (33 F.R. 7808, May 28, 1968) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

Signature

Date

Name and Title of Signer (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

EPA-7 5720-4.2
January 2021
Attachment 2
SRF Required Front-End Specifications

(This form must be completed and signed by the Prime Contractor and submitted with the bid)

Debarments and Suspensions
Any bidder or equipment supplier whose firm or affiliate is listed in on the U.S. General Services Administration Excluded Parties List will be prohibited from the bidding process. The excluded parties records search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/. Pursuant to 2 CFR Part 180, as supplemented by 2 CFR 1532, any entity submitting a bid while the SAM website lists that entity as having an active exclusion will be determined by the CNR to be a non-responsive bidder and will not be able to receive SRF funding.

United States Environmental Protection Agency Washington, DC 20460
Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

January 2021
Attachment 3

SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid)

Disadvantaged Business Enterprise (DBE) Solicitation

It is EPA's policy that recipients of EPA financial assistance through the State Revolving Fund programs award a "fair share" of subagreements to small, minority and women-owned businesses, collectively known as Disadvantaged Business Enterprises (DBEs). Iowa's Fair Share goals are:

<table>
<thead>
<tr>
<th></th>
<th>Minority-Owned Business Enterprise (MBE) Goal</th>
<th>Women-Owned Business Enterprise (WBE) Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Supplies</td>
<td>0.6%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Services</td>
<td>2.5%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Goods/Equipment</td>
<td>2.5%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Average</td>
<td>1.8%</td>
<td>7.4%</td>
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</tbody>
</table>

Only work performed by certified DBEs can be counted toward the goals. In Iowa, DBEs must be certified through the Iowa Department of Transportation (IDOT). Information on certification requirements and a list of certified DBEs is on the IDOT website at https://secure.iowadot.gov/DBE/Home/Index/.

Prime contractors' DBE requirements for SRF projects include:

- Taking affirmative steps for DBE participation
- Documenting the efforts and the proposed utilization of certified DBEs

PROJECT INFORMATION

| SRF Applicant:  |  |
| Bidder:         |  |
| Address:        |  |
| Contact Person: |  |
| Signature:      |  |
| Phone Number:   |  |
| E-Mail Address: |  |

Check if Prime Contractor is: [ ] Minority-Owned [ ] Women-Owned

January 2021
GOOD FAITH EFFORTS CHECKLIST

Please complete the checklist to determine if you have complied with the requirement to make good faith efforts to ensure that certified DBEs have the opportunity to compete for procurements funded by EPA financial assistance funds. Bidders/offerors must make good faith efforts prior to submission of bids/proposals.

1. Did you ensure that DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities? □ Yes □ No

2. Did you make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process? This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date. □ Yes □ No

3. Did you consider in the contracting process whether firms competing for large contracts could subcontract with DBEs? This will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process. □ Yes □ No

4. Did you encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually? □ Yes □ No

5. Did you use the services of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce to identify potential subcontractors? □ Yes □ No

6. List the potential D3E subcontractors that were contacted. Only list those that are certified through the Iowa Department of Transportation.

<table>
<thead>
<tr>
<th>Name</th>
<th>How Contacted (e.g. letter, phone call, fax, e-mail)</th>
<th>Response (e.g. did not respond, not interested, not competitive)</th>
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PROPOSED UTILIZATION OF DBE SUBCONTRACTORS
Please include Attachments 4 and 5 to document the proposed utilization of certified DBE subcontractors.

January 2021


**CONTRACT ADMINISTRATION PROVISIONS**

Several contract provisions are required to prevent unfair practices that adversely affect DBEs. These include:

1. Prime Contractor must pay its Subcontractor for satisfactory performance no more than 30 days from the Prime Contractor’s receipt of payment from the SRF loan recipient.

2. Prime Contractor must notify the SRF loan recipient in writing prior to termination of a DBE subcontractor for convenience.

3. Prime Contractor must employ the six Good Faith Efforts to solicit a replacement subcontractor if a DBE subcontractor fails to complete work under a subcontract for any reason.
**Attachment 4**

**SRF Required Front-End Specifications**

(This form must be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid)

Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE1 subcontractor’s2 description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor’s bid or proposal package.

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Project Name</th>
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</thead>
<tbody>
<tr>
<td>Bid/Proposal No.</td>
<td>Assistance Agreement ID No.</td>
</tr>
<tr>
<td></td>
<td>(if known)</td>
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<tr>
<td>Point of Contact</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Telephone No.</td>
<td>Email Address</td>
</tr>
<tr>
<td>Prime Contractor Name</td>
<td>Issuing/Funding Entity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract Item Number</th>
<th>Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies</th>
<th>Price of Work Submitted to the Prime Contractor</th>
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<tr>
<th>DBE Certified by DOT SBA</th>
<th>Meets/exceeds EPA certification standards?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other:</td>
<td>YES  NO  Unknown</td>
</tr>
</tbody>
</table>

1A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

2Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.
Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<table>
<thead>
<tr>
<th>Prime Contractor Signature</th>
<th>Print Name</th>
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<th>Title</th>
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IASRF6100-3 DBE Subcontractor Performance Form – Page 2

January 2021
Attachment 5
SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid if utilizing DBE subcontractors)

Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or intended use of identified certified DBE subcontractors and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

<table>
<thead>
<tr>
<th>Prime Contractor Name</th>
<th>Project Name</th>
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<th>Bid/Proposal No.</th>
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<th>Point of Contact</th>
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<th>Telephone No.</th>
<th>Email Address</th>
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<th>Issuing/Funding Entity</th>
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<tr>
<th>I have identified potential DBE certified subcontractors</th>
<th>YES</th>
<th>NO</th>
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If yes, please complete the table below. If no, please explain:

<table>
<thead>
<tr>
<th>Subcontractor Name/Company Name</th>
<th>Company Address/Phone/Email</th>
<th>Estimated Dollar Amount</th>
<th>Currently DBE Certified?</th>
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</tbody>
</table>

Continue on back if needed

1. DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

2. Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

IASRF6100-4 DBE Subcontractor Utilization Form – Page 1

January 2021
Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<table>
<thead>
<tr>
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IASRF6100-4 DBE Subcontractor Utilization Form – Page 2

January 2021
Attachment 10
SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid)

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

This term and condition implements 2 CFR 200.216 and is effective for obligations and expenditures of EPA financial assistance funding on or after 8/13/2020. EPA recipients and subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to:

(a) Procure or obtain, extend or renew a contract to procure or obtain;
(b) Enter into a contract (or extend or renew a contract) to procure; or
(c) Obtain the equipment, services, or systems that use “covered telecommunications equipment or services” identified in the regulation as a substantial or essential component of any system, or as critical technology as part of any system.

Certain equipment, systems, or services, including equipment, systems, or services produced or provided by entities subject to the prohibition are recorded in the System for Award Management exclusion list, website: https://www.sam.gov/SAM/.

(1) As described in Public Law 115-232, section 889, covered telecommunications equipment or services includes:
   (i) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
   (ii) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
   (iii) Telecommunications or video surveillance services provided by such entities or using such equipment.
   (iv) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(2) Consistent with 2 CFR 200.471, costs incurred for telecommunications and video surveillance services or equipment such as phones, internet, video surveillance, and cloud servers are allowable except for the following circumstances:
   (i) Obligating or expending EPA funds for covered telecommunications and video surveillance services or equipment or services to procure (enter into, renew or extend contracts) or obtain the equipment, services, or systems as described in 2 CFR 200.216.

I understand the above prohibitions and certify that the project will be in compliance with all the requirements.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

January 2021
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:

Western Ingersoll Run Sewer Separation Phase 3, 072021002

The improvements include 15-inch to 36-inch storm sewer pipe, 24-inch to 30-inch trenchless storm sewer
pipe, storm sewer manholes, storm sewer intakes, sanitary sewer spot repairs, sanitary service adjustments,
water main alterations, water services, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete
(PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, pavement markings, erosion control,
and other incidental items; all in accordance with the contract documents, including Plan File No. 642-
001/140, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th
Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to
Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA

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:
______________________________________________________
Surety Company
______________________________________________________
By ________________________________
Signature Attorney-in-Fact/Officer
______________________________________________________
Name of Attorney-in-Fact/Officer
______________________________________________________
Company Name
______________________________________________________
Company Address
______________________________________________________
City, State Zip Code
______________________________________________________
Company Telephone Number

PRINCIPAL:
______________________________________________________
Bidder
______________________________________________________
By ________________________________
Signature
______________________________________________________
Name
______________________________________________________
Title
______________________________________________________
Address
______________________________________________________
City, State Zip Code
______________________________________________________
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 5/9/2022

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, 2022 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:

Western Ingersoll Run Sewer Separation Phase 3, 072021002
The improvements include 15-inch to 36-inch storm sewer pipe, 24-inch to 30-inch trenchless storm sewer pipe, storm sewer manholes, storm sewer intakes, sanitary sewer spot repairs, sanitary service adjustments, water main alterations, water services, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete (PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, pavement markings, erosion control, and other incidental items; all in accordance with the contract documents, including Plan File No. 642-001/140, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA

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 April 26, 2024, and in accordance with the Completion Provisions; and to pay liquidated damages for noncompliance with completion provisions in the amount of Five Hundred and 00/100 dollars ($500.00), 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.

<table>
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<tr>
<th>JURISDICTION:</th>
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<tr>
<td>By ____________________________</td>
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<tr>
<td>T. M. Franklin Cownie, Mayor</td>
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<tr>
<td>(Seal)</td>
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<tr>
<td>ATTEST:</td>
</tr>
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<td>P. Kay Cmelik, City Clerk</td>
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<table>
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<tr>
<th>CONTRACTOR:</th>
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<tbody>
<tr>
<td>By ____________________________</td>
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<tr>
<td>Contractor</td>
</tr>
<tr>
<td>Signature</td>
</tr>
<tr>
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</tr>
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<td>Street Address</td>
</tr>
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<td>City, State - Zip Code</td>
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<tr>
<td>/</td>
</tr>
<tr>
<td>Telephone Number / Email Address</td>
</tr>
</tbody>
</table>

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 __________________________
________________________ 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 ___________________, 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

My commission expires ___________________
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 <http://www.dm.gov.org/Departments/Engineering/PDF/Contract%20Compliance%20Program%20(June%202017).pdf> 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 <http://www.dm.gov.org/Departments/Engineering/PDF/MasterConstructionSafetyPacket.pdf> and is also available upon request from the Engineering Department. The Engineering Department will make available a copy of the City of Des Moines Safety Plan to the Contractor when the contract is awarded. 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.
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.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNITS</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>AMOUNT</th>
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*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. Commence the work on the project on or after the date a written Notice to Proceed is issued by the City and substantially complete the project by April 26, 2024; and to pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each calendar day thereafter.

2. Complete work in compliance with the intermediate completion period as described below.

Intermediate Completion Date 1:

The Contractor shall complete pavement restoration work in an Area, as described in the plans, no later than Fourteen (14) working days after completion and acceptance of storm sewer pipe and structure installation, unless authorized by the Engineer; and to pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each calendar day thereafter. The Fourteen (14) working days are included in the number of working days identified for each stage below.

Intermediate Completion Date 2

The Contractor shall complete construction of all work, including all storm sewer, PCC curb and gutter, PCC sidewalk, PCC pavement, Hot Mix Asphalt paving, PCC Driveways, and curb ramp construction, pavement markings, retaining wall, and all associated work by November 23, 2023.

The following items do not need to be completed for the Intermediate Completion Date. This list includes but is not limited to the following:

- Surface Restoration

Liquidated damages for noncompliance with said completion provisions in the amount of one thousand and no/100 dollars ($1,000.00) per calendar day will be assessed for each day after November 23, 2022, that the work is not completed with the above-described Intermediate Completion Date 2 description and items.

The Contractor shall refer to the J sheets within the construction plans for further information regarding work within Areas.

STAGE 1A: Complete all work as described in the plans at this location within thirty-five (35) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 1B: Complete all work as described in the plans at this location within thirty (30) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.
STAGE 1C: Complete all work as described in the plans at this location within thirty (30) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 2: Complete all work as described in the plans at this location within twenty-five (25) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 3A: Complete all work as described in the plans at this location within twenty-five (25) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 3B: Complete all work as described in the plans at this location within twenty-five (25) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 4: Complete all work as described in the plans at this location within thirty (30) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 5A: Complete all work as described in the plans at this location within twenty (20) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 5B: Complete all work as described in the plans at this location within thirty-five (35) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

STAGE 5C: Complete all work as described in the plans at this location within twenty (20) Working Days; and pay liquidated damages for noncompliance with said completion provision in the amount of five hundred and no/100 dollars ($500.00) for each working day thereafter.

3. Work at two different sites concurrently is allowed in order to substantially complete the project by November 23, 2023 described in the Intermediate Completion Date 2 above; however, working days will continue to be charged for each site once work has started for the site. Concurrent work on multiple sites shall be approved by the Engineer.

4. 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.
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:

Western Ingersoll Run Sewer Separation Phase 3, 072021002

The improvements include 15-inch to 36-inch storm sewer pipe, 24-inch to 30-inch trenchless storm sewer pipe, storm sewer manholes, storm sewer intakes, sanitary sewer spot repairs, sanitary service adjustments, water main alterations, water services, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete (PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, pavement markings, erosion control, and other incidental items; all in accordance with the contract documents, including Plan File No. 642-001/140, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA

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________

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<th>PRINCIPAL:</th>
<th>SURETY:</th>
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<tr>
<td>________________</td>
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<tr>
<td>Contractor</td>
<td>By</td>
</tr>
<tr>
<td>By</td>
<td>Signature Attorney-in-Fact/Officer</td>
</tr>
<tr>
<td>Signature</td>
<td>Name of Attorney-in-Fact/Officer</td>
</tr>
<tr>
<td></td>
<td>Company Name</td>
</tr>
<tr>
<td></td>
<td>Company Address</td>
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<td></td>
<td>City, State Zip Code</td>
</tr>
<tr>
<td></td>
<td>Company Telephone Number</td>
</tr>
<tr>
<td>FORM APPROVED BY:</td>
<td></td>
</tr>
<tr>
<td>Kathleen Vanderpool</td>
<td>Deputy City Attorney</td>
</tr>
</tbody>
</table>

**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.
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 Friday, May 6, 2022. 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, May 9, 2022. 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 Friday, May 6, 2022; 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 re-advertised 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


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/Directory/.
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.microsoftdmportal.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 at www.state.ia.us/tax, the Iowa Department of Revenue and Finance’s (IDRF) web site. Links are found in the Business Taxes and Local Government categories. Contact the IDRF at idrf@idrf.state.ia.us if you have questions on this requirement.
SPECIAL PROVISION
CONTRACTUAL REQUIREMENTS
FOR NPDES PERMIT REQUIREMENTS
ON
WESTERN INGERSOLL RUN SEWER SEPARATION PHASE 3
Activity ID 07-2021-002

INDEX

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>General</td>
<td>1-2</td>
</tr>
<tr>
<td>2.</td>
<td>Stormwater Pollution Prevention Plan</td>
<td>2-6</td>
</tr>
<tr>
<td>3.</td>
<td>Site Information</td>
<td>7</td>
</tr>
<tr>
<td>4.</td>
<td>Public Notice of Storm Water Discharge</td>
<td>8</td>
</tr>
<tr>
<td>5.</td>
<td>NPDES Certification Statement</td>
<td>9-11</td>
</tr>
</tbody>
</table>

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 Engineer’s 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 POLLUTION 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 governmental 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 disturbec 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. Expect 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 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

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<th>Project Name</th>
<th>Western Ingersoll Run Sewer Separation Phase 3 Activity ID 07-2021-002</th>
</tr>
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<td>Project Location</td>
<td>City of Des Moines, Polk County, Iowa Section 6 &amp; 7, Township 78N, Range 24W</td>
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<tr>
<td>Owner Name</td>
<td>City of Des Moines</td>
</tr>
<tr>
<td>Representative</td>
<td>Justin Miller</td>
</tr>
<tr>
<td>Owner Address/Phone</td>
<td>Engineering Department City Hall - 400 Robert D. Ray Drive Des Moines, Iowa (515) 283-4933</td>
</tr>
<tr>
<td>Contractor Name</td>
<td></td>
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<tr>
<td>Contractor Address/Phone</td>
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<tr>
<td>Site Area</td>
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<tr>
<td>Disturbed Area</td>
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<tr>
<td>Final Runoff Coefficient</td>
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<td>Soil type / characteristics</td>
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<td>Receiving Waters</td>
<td>Raccoon River</td>
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</table>
| Description (purpose and types of soil disturbing activities) | This project or work involves following described improvement:  
The improvement includes 15-inch to 36-inch reinforced concrete pipe (RCP) storm sewer, 24-inch to 30-inch trenchless storm sewer pipe, sanitary sewer service replacement, water main alterations, water services, storm sewer manholes, storm sewer intakes, Hot-Mix-Asphalt (HMA) pavement, Portland Cement Concrete (PCC) curb and gutter, PCC sidewalks, PCC driveways, earthwork, landscaping, erosion control, and other incidental items; all in accordance with the contract documents, located on 35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA.  
Soil disturbing activities necessary to complete the work are clearing and grubbing, pavement removal, grading, storm sewer installation, final grading, topsoil placement, and surface restoration. Site sources of pollution generated as a result of this project relate to silts and sediments that may be transported as a result of a stormwater event. |
| Expected Sequence of Major Construction Activities to be Completed by Contractor (subject to change; any deviations shall be noted on this plan) | |
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 Western Ingersoll Run Sewer Separation Phase 3, Activity ID 07-2021-002.

Located in
- SW ¼ Sec. 6, T78N, R24W, Polk County
- SE ¼ Sec. 6, T78N, R24W, Polk County
- NE ¼ Sec. 7, T78N, R24W, Polk County
- NW ¼ Sec. 7, T78N, R24W, Polk County

Storm water will be discharged from __1___ point source and will be discharged to the following stream: _____ Raccoon 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__
March 23, 2022
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-permitees with the City of Des Moines, the Contractor, and other co-permitees. 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."

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Western Ingersoll Run Sewer Separation Phase 3</th>
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<td>35th Street from Ingersoll Avenue to Rollins Avenue, Woodland Avenue from 36th Street to 35th Street, Center Street from 37th Street to 35th Street, 36th Street from Grand Avenue to Ingersoll Avenue, and Grand Avenue from 36th Street to 40th Street, Des Moines, IA.</td>
</tr>
<tr>
<td>Contractor or Subcontractor</td>
<td></td>
</tr>
<tr>
<td>Name (Print/Type)</td>
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<tr>
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<td>City, State, Zip</td>
<td></td>
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<tr>
<td>Telephone Number</td>
<td></td>
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<tr>
<td>Date</td>
<td>Activity ID</td>
</tr>
</tbody>
</table>

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 ___.
SPECIAL PROVISION
SRF REQUIRED FRONT-END SPECIFICATIONS
ON
WESTERN INGERSOLL RUN SEWER SEPARATION PHASE 3
ACTIVITY ID 07-2021-002

1) Exhibit 12A - SRF Required Front-End Specifications – January 2021. The enclosed Exhibit 12A - SRF Required Front-End Specifications – January 2021, shall apply to this project. Several of these forms are required to be submitted by the bidder in its proposal and those forms have been reproduced and included in the proposal document. Several of these forms are self-explanatory; however, the following clarifications will be utilized on this project.

   a. Attachment 1, Certification of Non-Segregated Facilities. This attachment is self-explanatory.

   b. Attachment 2, Debarments and Suspensions and Certification Regarding Debarment, Suspension, and Other Responsibility Matters. This attachment is self-explanatory.

   c. Attachment 3, Disadvantaged Business Enterprise (DBE) Solicitation – Additional Information and Clarification.

   i. The first table on Page 1 of this IDNR/EPA form lists MBE and WBE Goals for various elements and an average. The first paragraph under this table states that only DBE’s certified by the Iowa Department of Transportation (IDOT) can be counted toward the goal. Engineering Department Staff contacted Chester Stovall, US EPA, 913-551-7549, for clarifications regarding the EPA DBE requirements and received the following information and form clarifications.

   ii. Since this is a construction project, the 1.7% MBE and the 2.2% WBE goals apply to this project. The form also states that only DBE’s certified by the IDOT may be counted toward this goal. The IDOT certifies DBEs not MBEs and WBEs. However, Engineering Department Staff have contacted Mr. Len A. Hill, IDOT Office of Contracts, 515-239-1833, who has stated that the IDOT has included on the DBE certification/renewal letter that the DBE is certified as a W-DBE (Women Disadvantaged Business Enterprise, which is referred to in the Attachments as a Women-Owned Business Enterprise (WBE)) or an M-DBE (Minority Disadvantaged Business Enterprise, which is referred to in the Attachments as a Minority-Owned Business Enterprise (MBE)). Therefore, the bidder should be able to obtain the minority (MBE) or women (WBE) certification information from the DBE to properly complete Attachments 3, 4, and 5.

   iii. Chester Stovall stated that the EPA DBE program is a good faith effort program, and the bidder must make efforts to contact and utilize DBEs in its bid. The Good Faith Efforts Checklist is to be used to measure the bidder’s efforts and compliance with the program.

   iv. Page 2, Good Faith Efforts Checklist, Item 2, references 30 day notice to DBE’s. The project has a two week bid period, so the WRA expects the bidders to contact DBE as soon as possible of their interest in bidding this project, and would expect a reasonable notice if the bidder checks the “YES” box. This project has been on the City’s design and contract schedule for
some time, and the City will send notices to DBE's as part of its Good Faith Efforts to solicit DBEs.

v. Page 2, Good Faith Efforts Checklist, Item 4, references encouraging contracting with a consortium of DBEs when the contract is too large for a DBE to handle individually. The bidder may also check this box YES if it would consider utilizing a small DBE for a small portion of the work; for example a DBE trucker with one truck to do a portion of the trucking.

vi. Page 2, Good Faith Efforts Checklist, Item 5, references using the services of the Small Business Administration and Minority Business Development Agency to identify potential subcontractors. Since only DBEs certified by the IDOT can be counted toward the goal, the bidder should document by checking the "YES" box if it has utilized the current IDOT's Iowa Directory of Certified Disadvantaged Business Enterprises to identify potential DBE subcontractors.

vii. DBEs shall be certified by the IDOT; however, the Good Faith Efforts measurements of the IDOT do NOT apply to this project. The bidder is required to make Good Faith Efforts to contact and solicit DBE participation as stated in Items 1–5 on Page 2, AND is required to list the potential DBE subcontractors that were contacted on the table under Item 6. Note that the form specifically states "potential subcontractors that were contacted", so simply identifying one DBE subcontractor, and using that DBE subcontractor, will probably NOT be considered a Good Faith Effort.

viii. This attachment must be submitted with the proposal.

d. Attachment 4, DBE Subcontractor Performance Form - Additional information and Clarification.

i. This IDNR/EPA form is for identification of DBE quotations received. Only IDOT certified DBEs shall be identified and submitted on these forms. The bidder must submit Attachment 4 for each DBE it lists on Attachment 5; the bidder need not submit these forms for any DBE that the bidder does not intend to use on this project. The bidder need not identify non-DBE subcontractors on this form.

ii. Attachment 4 has a signature space for both the prime contractor and the DBE subcontractor. The WRA recognizes that this will require extra time to prepare the bid. Therefore, the WRA will accept a copy of the signature by the DBE subcontractor. The DBE subcontractor should prepare/complete the form, sign it, and may fax or e-mail it to the prime bidder. The prime bidder should sign the form for DBEs it intends to use on this project and submit its original signature document with its proposal. The WRA reserves the right to verify signatures with the DBE.

iii. If the bidder does not intend to use any DBEs on the project and has not listed any DBEs on Attachment 5, the bidder should complete the space provided to identify the project and the Prime Contractor Name, insert NONE in the space provided for the Name of Subcontractor and/or Item of Work or Description of Services Bid to Prime, and sign in the space provided for Signature of Prime Contractor.

iv. This attachment must be submitted with the proposal.

e. Attachment 5, DBE Subcontractor Utilization Form - Additional information and Clarification.

i. This IDNR/EPA form is for identification of DBE quotations used by the bidder in its bid, and to identify DBE subcontractors that will be used in the contract work. Only IDOT certified DBEs shall be identified and submitted on this form. The bidder need not identify non-DBE subcontractors on this form.

ii. The bidder is still required to complete the Proposal Attachment, Part F, Item 1, Identity of Subcontractors, which requires the bidder to identify ALL subcontractors or assignees with a value of $25,000 or greater. This is a WRA requirement.
iii. The prime bidder must submit its original signature document with its proposal showing all DBEs it intends to use on the project.

iv. If the bidder does not intend to use any DBEs on the project, the bidder should complete the space provided to identify the bidder and the project; insert NONE in the space provided for the Company Name, Address, Phone No. and e-mail address of the DBE subcontractor to be used on this project and/or in the space provided for Type of Work to be Performed; and sign in the space provided for Signature of Prime Contractor and complete the spaces for the identification of the person signing the document on behalf of the bidder.

v. This attachment must be submitted with the proposal.

f. Attachment 6, DBE Subcontractor Participation Form - Additional information and Clarification.
   i. This form is NOT required to be submitted with the bid.
   ii. This form is for the voluntary use of the DBE subcontractor, and if utilized should be submitted directly to the US EPA as stated on the bottom of the form.

g. Attachment 7, Other Federal Requirements Language. These attachments are self-explanatory; however, 7 (B) is the Federal Labor Standards Provisions, which referenced Davis-Bacon prevailing wage rates. General Wage Decision IA20220081 02/25/22 shall apply to this project and is included in Attachment 11.

h. Attachment 8, Right of Entry and Records Retention. This attachment is self-explanatory.

i. Attachment 9, Use of American Iron and Steel. Iron and steel items used on the project as noted in the attachment shall be produced in the United States.

j. Attachment 10, Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. Certain equipment, systems or services are prohibited as noted in the attachment.

k. Attachment 11, Davis-Bacon Prevailing Wage Rates General Wage Decision IA20220081 02/25/22 shall apply to this project and is included in Attachment 11.
Exhibit 12A - SRF Required Front-End Specifications

PLEASE NOTE: Attachment 10 is a new program requirement and is effective for all SRF projects bid after January 2021.

Attachment 1: Certification of Non-Segregated Facilities Form (to be completed and signed by Prime Contractor and submitted with the bid)

Attachment 2: Statement in Advertisement for Bids on Debarment and Suspension/Certification Regarding Debarment and Suspension Form (to be completed and signed by Prime Contractor and submitted with the bid)

Attachment 3: Disadvantaged Business Enterprise Certification Form (to be completed and signed by Prime Contractor and submitted with the bid)

Attachment 4: DBE Program Subcontractor Performance Form (to be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid)

Attachment 5: DBE Program Subcontractor Utilization Form (to be completed and signed by Prime Contractor and submitted with the bid)

Attachment 6: DBE Program Subcontractor Participation Form (for voluntary use of DBEs)

Attachment 7: Other Federal Requirements Language
   A. Standard Equal Employment Opportunity Specifications
   B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates**)
   C. Preservation of Open Competition and Government Neutrality
   D. Historical and Archeological Finds
   E. Prohibitions on Procurement from Violating Facilities

Attachment 8: Right of Entry and Records Retention

Attachment 9: Use of American Iron and Steel

Attachment 10: Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (to be completed and signed by Prime Contractor and submitted with the bid)

Attachment 11: Davis-Bacon Prevailing Wage Rates

January 2021
Attachment 1
SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid)

U.S. Environmental Protection Agency
Certification of Non-Segregated Facilities

(Applicable to contracts, subcontracts, and agreements with applicants who are themselves performing federally assisted construction contracts, exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term “segregated facilities” means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A Certification of Non-segregated Facilities, as required by the May 9, 1967, order (33 F.R. 7808, May 28, 1968) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

__________________________________________
Signature

__________________________________________
Date

__________________________________________
Name and Title of Signer (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

EPA-7 5720-4.2

January 2021
Attachment 2
SRF Required Front-End Specifications

(This form must be completed and signed by the Prime Contractor and submitted with the bid)

Debarments and Suspensions
Any bidder or equipment supplier whose firm or affiliate is listed in on the U.S. General Services Administration Excluded Parties List will be prohibited from the bidding process. The excluded parties records search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/. Pursuant to 2 CFR Part 180, as supplemented by 2 CFR 1532, any entity submitting a bid while the SAM website lists that entity as having an active exclusion will be determined by the DNR to be a non-responsive bidder and will not be able to receive SRF funding.

United States Environmental Protection Agency Washington, DC 20460

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 U SC Sec. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

January 2021
Attachment 3
SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid)

Disadvantaged Business Enterprise (DBE) Solicitation

It is EPA's policy that recipients of EPA financial assistance through the State Revolving Fund programs award a "fair share" of subagreements to small, minority and women-owned businesses, collectively known as Disadvantaged Business Enterprises (DBEs). Iowa’s Fair Share goals are:

<table>
<thead>
<tr>
<th></th>
<th>Minority-Owned Business Enterprise (MBE) Goal</th>
<th>Women-Owned Business Enterprise (WBE) Goal</th>
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</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Supplies</td>
<td>0.6%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Services</td>
<td>2.5%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Goods/Equipment</td>
<td>2.5%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Average</td>
<td>1.8%</td>
<td>7.4%</td>
</tr>
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</table>

Only work performed by certified DBEs can be counted toward the goals. In Iowa, DBEs must be certified through the Iowa Department of Transportation (IDOT). Information on certification requirements and a list of certified DBEs is on the IDOT website at https://secure.iowadot.gov/DBE/Home/Index/.

Prime contractors' DBE requirements for SRF projects include:

- Taking affirmative steps for DBE participation
- Documenting the efforts and the proposed utilization of certified DBEs

**PROJECT INFORMATION**

<table>
<thead>
<tr>
<th>SRF Applicant:</th>
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<tbody>
<tr>
<td>Bidder:</td>
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<tr>
<td>Address:</td>
</tr>
<tr>
<td>Contact Person:</td>
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<tr>
<td>Signature:</td>
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<tr>
<td>Phone Number:</td>
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<td>E-Mail Address:</td>
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Check if Prime Contractor is: [ ] Minority-Owned  [ ] Women-Owned

January 2021
GOOD FAITH EFFORTS CHECKLIST
Please complete the checklist to determine if you have complied with the requirement to make good faith efforts to ensure that certified DBEs have the opportunity to compete for procurements funded by EPA financial assistance funds. Bidders/offereors must make good faith efforts prior to submission of bids/proposals.

1. Did you ensure that DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities? □ Yes □ No

2. Did you make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process? This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date. □ Yes □ No

3. Did you consider in the contracting process whether firms competing for large contracts could subcontract with DBEs? This will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process. □ Yes □ No

4. Did you encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually? □ Yes □ No

5. Did you use the services of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce to identify potential subcontractors? □ Yes □ No

6. List the potential DEE subcontractors that were contacted. Only list those that are certified through the Iowa Department of Transportation.

<table>
<thead>
<tr>
<th>Name</th>
<th>How Contacted (e.g. letter, phone call, fax, e-mail)</th>
<th>Response (e.g. did not respond, not interested, not competitive)</th>
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PROPOSED UTILIZATION OF DBE SUBCONTRACTORS
Please include Attachments 4 and 5 to document the proposed utilization of certified DBE subcontractors.
CONTRACT ADMINISTRATION PROVISIONS
Several contract provisions are required to prevent unfair practices that adversely affect DBEs. These include:

1. Prime Contractor must pay its Subcontractor for satisfactory performance no more than 30 days from the Prime Contractor's receipt of payment from the SRF loan recipient.

2. Prime Contractor must notify the SRF loan recipient in writing prior to termination of a DBE subcontractor for convenience.

3. Prime Contractor must employ the six Good Faith Efforts to solicit a replacement subcontractor if a DBE subcontractor fails to complete work under a subcontract for any reason.
Attachment 4

SRF Required Front-End Specifications
(This form must be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid)

Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE's description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor’s bid or proposal package.

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Project Name</th>
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</table>

<table>
<thead>
<tr>
<th>Bid/Proposal No.</th>
<th>Assistance Agreement ID No. (if known)</th>
<th>Point of Contact</th>
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| Address | |
|---------| |

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<tr>
<th>Telephone No.</th>
<th>Email Address</th>
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<tr>
<th>Prime Contractor Name</th>
<th>Issuing/Funding Entity</th>
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<tr>
<th>Contract Item Number</th>
<th>Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies</th>
<th>Price of Work Submitted to the Prime Contractor</th>
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<tr>
<th>DBE Certified by</th>
<th>DOT</th>
<th>SBA</th>
<th>Meets/exceeds EPA certification standards?</th>
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<tbody>
<tr>
<td>_____Other:</td>
<td></td>
<td></td>
<td>_____YES _____NO _____Unknown</td>
</tr>
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</table>

1 A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

2 Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

IASRF6100-3 DBE Subcontractor Performance Form – Page 1

January 2021
Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<table>
<thead>
<tr>
<th>Prime Contractor Signature</th>
<th>Print Name</th>
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<table>
<thead>
<tr>
<th>Subcontractor Signature</th>
<th>Print Name</th>
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</table>

IASRF6100-3 DBE Subcontractor Performance Form – Page 2

January 2021
Attachment 5
SRF Required Front-End Specifications
(This form must be completed and signed by Prime Contractor and submitted with the bid if utilizing DBE subcontractors)

Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor’s actual and/or intended use of identified certified DBE\(^1\) subcontractors\(^2\) and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

<table>
<thead>
<tr>
<th>Prime Contractor Name</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid/Proposal No.</td>
<td>Assistance Agreement ID No. (if known)</td>
</tr>
<tr>
<td>Address</td>
<td></td>
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<tr>
<td>Telephone No.</td>
<td>Email Address</td>
</tr>
<tr>
<td>Issuing/Funding Entity</td>
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</table>

I have identified potential DBE certified subcontractors  
[ ] YES  [ ] NO

If yes, please complete the table below. If no, please explain:

<table>
<thead>
<tr>
<th>Subcontractor Name/Company Name</th>
<th>Company Address/Phone/Email</th>
<th>Estimated Dollar Amount</th>
<th>Currently DBE Certified?</th>
</tr>
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Continue on back if needed

\(^1\) A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

\(^2\) Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.
Disadvantaged Business Enterprise Program  
DBE Subcontractor Utilization Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

<table>
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</table>

IASRF6100-4 DBE Subcontractor Utilization Form – Page 2
Disadvantaged Business Enterprise Program  
DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. The use of this form by DBE subcontractors is voluntary and is not required for bidding. This form gives a DBE\(^1\) subcontractor\(^2\) the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g. in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

<table>
<thead>
<tr>
<th>Subcontractor Name</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid/Proposal No.</td>
<td>Assistance Agreement ID No.</td>
</tr>
<tr>
<td></td>
<td>(if known)</td>
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<td>Point of Contact</td>
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<table>
<thead>
<tr>
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<table>
<thead>
<tr>
<th>Telephone No.</th>
<th>Email Address</th>
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<table>
<thead>
<tr>
<th>Prime Contractor Name</th>
<th>Issuing/Funding Entity</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Contract Item Number</th>
<th>Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies</th>
<th>Amount Received by Prime Contractor</th>
</tr>
</thead>
</table>

\(^1\)A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 53.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

\(^2\)Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

IASRF6100-2 DBE Subcontractor Participation Form – Page 1

January 2021
Please use the space below to report any concerns regarding the above EPA-funded project:

________________________________________________________________________
________________________________________________________________________
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<table>
<thead>
<tr>
<th>Subcontractor Signature</th>
<th>Print Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Date</td>
</tr>
</tbody>
</table>

Return to: Regional Coordinator, Small Business Utilization, U.S. Environmental Protection Agency, Region 7, 11201 Renner Blvd., Lenexa, KS 66219
Attachment 7
SRF Required Front-End Specifications

Other Federal Requirements Language

A. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:
   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
   d. "Minority" includes:
      (i) Black (all persons having origin in any of the Black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Sub-continent, or the Pacific Islands) and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 6-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor’s or Subcontractor’s failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employee in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a

January 2021
Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor’s obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

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

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor’s compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
   a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor employees are assigned to work. The Contractor, where possible will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor’s obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
   b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organizations’ responses.
   c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
   d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor’s effort, to meet its obligations.
   e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor’s employment needs, especially those programs funded or approved by the Department of Labor. The
Contractor shall provide notice of these programs to the source complied under 7b above.
f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and test to be used in the selection process.
j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

January 2021
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps at least as extensive as those standards prescribed in paragraph 7 of these specifications so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

January 2021
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Federal Register, Vol. 43, No. 68 - Friday, April 7, 1978 (Corrected May 5, 1978).
Effective Date: May 8, 1978
Federal Register, Vol. 45, No. 194, Paragraph 4, revised October 3, 1980
Effective Date: September 30, 1980

APPENDICES A and B-80

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity
(Executive Order 11246)

1. The Offerors or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:
   (See Appendix B-80 and Appendix A Below)

   These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

   The Contractor's compliance with the Executive Order and in the regulations in 41 CFR Part 60—4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60—4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60—4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer Identification number of the subcontractor, estimated dollar amount of the subcontract, and the geographical area in which the subcontract is to be performed.

January 2021
4. As used in this Notice, and in the contract resulting from this solicitation, the “covered area” is (State of Iowa).

APPENDIX A

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of $10,000. The goals are applicable to the contractor’s aggregate on-site construction workforce whether or not part of that workforce is performing work on a Federal or federally assisted construction contract or subcontract.

Area covered: Goals for Women apply nationwide.

Timetable Goals (percent)
From Apr. 1, 1978 until March 31, 1979 . . . . . .3.1
From Apr. 1, 1979 until March 31, 1980 . . . . . .5.0
From Apr. 1, 1980 until March 31, 1981 . . . . . .6.9

Published, Federal Register May 5, 1978

APPENDIX B-80

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of $10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor’s total onsite construction workforce, regardless of whether or not part of that workforce is performing work in a Federal, federally assisted or nonfederally related project, contract or subcontract. Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all other covered construction work, such contractors are required to comply with the applicable SMSA of EA goal contained in this appendix B-80.
Economic Areas

State: Iowa

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<tbody>
<tr>
<td>SMSA Counties:</td>
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<tr>
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<tr>
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<tr>
<td>IA Woodbury, NE Dakota</td>
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January 2021
Non-SMSA Counties
1.2
IA Cherokee, IA Crawford, IA Ida, IA Monona, IA O'Brien, IA Plymouth, IA Sioux, NE Antelope, NE Cedar, NE Cuming, NE Dixon, NE Knox, NE Madison, NE Pierce, NE Stanton, NE Thurston, NE Wayne, SD Bon Homme, SD Clay, SD Union, SD Yankton

104 Des Moines, IA:
SMSA Counties:
2120 Des Moines, IA
4.5
IA Polk, IA Warren

Non SMSA Counties:
2.4
IA Adair, IA Appanoose, IA Boone, IA Clarke, IA Dallas, IA Davis, IA Decatur, IA Guthrie, IA Jasper, IA Jefferson, IA Keokuk, IA Lucas, IA Madison, IA Mahaska, IA Marion, IA Marshall, IA Monroe, IA Poweshiek, IA Ringgold, IA Story, IA Tama, IA Union, IA Van Buren, IA Wapello, IA Wayne

143 Omaha, NE:
SMSA Counties:
5920 Omaha, NE-IA
7.6
IA Pottawattamie, NE Douglas, NE Sarpy

Non-SMSA Counties
5.3
IA Adams, IA Audubon, IA Cass, IA Fremont, IA Harrison, IA Mills, IA Montgomery, IA Page, IA Shelby, IA Taylor, NE Burt, NE Cass, NE Colfax, NE Dodge, NE Platte, NE Saunders, NE Washington

Published, Federal Register October 3, 1980

B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)

Applicability
The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

(1) Minimum wages. (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attaohoc horcto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill,
except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; Provided that, the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

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

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

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

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
(2) Withholding. The EPA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records. (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/whd/programs/dbra/forms.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its
own records, without weekly submission to the sponsoring government agency (or the applicant sponsor, or owner).

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

(1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

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

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

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--(i) Apprentices. Apprentices will be permitted to work at less than the predetermine rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's

January 2021
hourly rate) specified in the contractor's or subcontractors registered program shall be observed.
Every apprentice must be paid at not less than the rate specified in the registered program for
the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate
specified in the applicable wage determination. Apprentices shall be paid fringe benefits in
accordance with the provisions of the apprenticeship program. If the apprenticeship program
does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits
listed on the wage determination for the applicable classification. If the Administrator determines
that a different practice prevails for the applicable apprentice classification, fringes shall be paid
in accordance with that determination. In the event the Office of Apprenticeship Training,
Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office,
withdraws approval of an apprenticeship program, the contractor will no longer be permitted to
utilize apprentices at less than the applicable predetermined rate for the work performed until an
acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less
than the predetermined rate for the work performed unless they are employed pursuant to and
individually registered in a program which has received prior approval, evidenced by formal
certification by the U.S. Department of Labor, Employment and Training Administration. The
ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan
approved by the Employment and Training Administration. Every trainee must be paid at not
less than the rate specified in the approved program for the trainee's level of progress,
expressed as a percentage of the journeymen hourly rate specified in the applicable wage
determination. Trainees shall be paid fringe benefits in accordance with the provisions of the
trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid
the full amount of fringe benefits listed on the wage determination unless the Administrator of
the Wage and Hour Division determines that there is an apprenticeship program associated with
the corresponding journeymen wage rate on the wage determination which provides for less
than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who
is not registered and participating in a training plan approved by the Employment and Training
Administration shall be paid not less than the applicable wage rate on the wage determination
for the classification of work actually performed. In addition, any trainee performing work on the
job site in excess of the ratio permitted under the registered program shall be paid not less than
the applicable wage rate on the wage determination for the work actually performed. In the
event the Employment and Training Administration withdraws approval of a training program,
the contractor will no longer be permitted to utilize trainees at less than the applicable
predetermined rate for the work performed until an acceptable program is approved.

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

(5) Compliance with Copeland Act requirements. The contractor shall comply with the
requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses
contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of
the Federal agency) may by appropriate instructions require, and also a clause requiring the
subcontractors to include these clauses in any lower tier subcontracts. The prime contractor
shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all
the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be
grounds for termination of the contract, and for debarment as a contractor and a subcontractor
as provided in 29 CFR 5.12.
(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (and any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility. (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).


(b) Contract Work Hours and Safety Standards Act. The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Sec. 5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The loan recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the
subcontractors to include these clauses in any lower tier subcontracts. The prime contractor
shall be responsible for compliance by any subcontractor or lower tier subcontractor with the
clauses set forth in paragraphs (b)(1) through (4) of this section.
(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the
Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec.
5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring
that the contractor or subcontractor shall maintain payrolls and basic payroll records during the
course of the work and shall preserve them for a period of three years from the completion of
the contract for all laborers and mechanics, including guards and watchmen, working on the
contract. Such records shall contain the name and address of each such employee, social
security number, correct classifications, hourly rates of wages paid, daily and weekly number of
hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause
or require the contracting officer to insert in any such contract a clause providing that the
records to be maintained under this paragraph shall be made available by the contractor or
subcontractor for inspection, copying, or transcription by authorized representatives of the EPA
and the Department of Labor, and the contractor or subcontractor will permit such
representatives to interview employees during working hours on the job.

C. Preservation of Open Competition and Government Neutrality Towards
Government Contractors’ Labor Relations on Federal and Federally Funded
Construction Projects (Executive Order 13202, as amended by Executive Order
13208)

Executive Order 13202, signed February 17, 2001 and amended April 4, 2001, requires all
executive agencies that issue grants to ensure Government neutrality toward contractors’ labor
relations. This applies to recipients of SRF assistance. The Executive Order prohibits
discrimination against contractors and their employees in construction contracts based upon
labor affiliation or lack thereof.

SRF assistance recipients and any construction managers acting on their behalf must ensure
that bidding specifications, project agreements, and other controlling documents do not require,
prohibit, or otherwise discriminate, with respect to labor affiliation or lack thereof.

D. Historical and Archeological Finds

If, during the course of construction, evidence of deposits of historical or archeological interest is
found, the contractor shall cease operations affecting the find. The owner shall then notify the
State Revolving Fund Environmental Review Specialist, who shall in turn notify the State
Historic Preservation Office. The SRF shall consult with the SHPO and other interested parties
to determine the proper course of action regarding the discovery. No further disturbance of the
deposits shall ensue until the SRF Environmental Review Specialist determines that the project
activities in that area may proceed. Compensation to the contractor, if any, for lost time or
changes in construction to avoid the find, shall be determined in accordance with changed
conditions or change order provisions of the specifications.

Authority for this derives from the National Historic Preservation Act (16 U.S.C. §§ 470 et seq.)
and 36 CFR Part 800. If human remains are discovered then state law also applies IC 263B.
E. Prohibitions on Procurement from Violating Facilities (Section 306, Clean Air Act; Section 508, Clean Water Act; Executive Order 11738)

Both the Clean Water Act and the Clean Air Act prohibit federal agencies from extending assistance by way of loans or contracts to persons who have been convicted of violations of either law. Executive Order 11738 was issued to coordinate enforcement by the U.S. Environmental Protection Agency, which shall designate facilities which have given rise to a conviction for an offense under the criminal provisions of the Clean Air Act and the Clean Water Act.

The Executive Order also prohibits agencies from extending assistance to facilities that are not in compliance with either Act.

SRF assistance recipients may not procure goods, services, or materials from suppliers listed by the EPA as violators.

The Excluded Parties Listing search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/.

Attachment 8
SRF Required Front-End Specifications
Right of Entry and Records Retention

The recipient shall provide access at all times for the Department of Natural Resources, the Iowa Finance Authority, the state auditor, and the U.S. EPA Office of the Inspector General to all project records and documents for inspection and audit purposes for a period of three years after the date of last loan payment. The same access to the project site(s) shall be provided for inspection purposes.

567 Iowa Administrative Code paragraph 92.8(2).e. State inspections. Personnel of the department shall have the right to examine all construction aspects of the project, including materials and equipment delivered and stored on site for use on the project.
Attachment 9
SRF Required Front-End Specifications

“American Iron and Steel” Requirements

H.R. 3547, the “Consolidated Appropriations Act, 2014,” enacted January 17, 2014 by the U.S. Congress, includes “American Iron and Steel” provisions that require Clean Water and Drinking Water State Revolving Fund assistance recipients of these funds to use iron and steel produced in the United States.

H.R. 3547 includes the following language in Division G, Title IV, under the heading, “Use of American Iron and Steel”:

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron and steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) find that—

1. Applying subsection (a) would be inconsistent with the public interest;

2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quantity; or

3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

The final guidance and any published waivers are found at: https://www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement. In particular the contractor should pay attention to the guidance for documentation of compliance. There is also a waiver for incidental items; in order to qualify for this waiver the total materials and costs for the project must be tracked and incidental items identified.

January 2021
**Sample “American Iron and Steel” Contract Language**

In order to fulfill the requirements, the assistance recipient must in good faith design the project and solicit bids for construction with U.S.-made iron and steel. The following information will be included in any contracts resulting from this request for bids:

The Contractor acknowledges to and for the benefit of the City of [City Name] (“Purchaser”) and the State of Iowa (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund and such law contains provisions commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

**Sample Certifications**

As indicated in the contract language, it will be the responsibility of the Contractor to obtain certifications that the products and materials used in the project are U.S.-made. EPA recommends the use of a step certification process for documenting compliance with AIS requirements, similar to one used by the Federal Highway Administration. Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. Each handler (supplier, fabricator, manufacturer, processor, coater, etc.) of the iron and steel products certifies that their step in the process was domestically performed.

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead. In this example, there may be multiple letters from different manufacturers if one manufacturer did not perform all of the steps.
Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA’s State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

______________________

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the U.S. and providing detailed information on the steps involved.

The following is a template for this type of final certification.

January 2021
IRON & STEEL, INC.
1959 Steel Drive
Ironville, OH 12345

MATERIAL CERTIFICATION

April 30, 2015

RE: Job Name: Waterprojectville, Iowa – 2015 State Revolving Fund Water Infrastructure Project
SRF Project Number: CS1920999 01

I certify that the processes for manufacturing or fabricating the following products and/or materials provided for the subject project took place at the following U.S. locations:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>Manufacturing Processes</th>
<th>Location Where Processes Occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 count</td>
<td>AB123456 4&quot; Gate Valve</td>
<td>Melted, poured, machined</td>
<td>Ironville, OH</td>
</tr>
<tr>
<td>60 count</td>
<td>XY654321 Reinforced Concrete Manhole</td>
<td>Melted, rolled, fabricated</td>
<td>Steel City, IA</td>
</tr>
<tr>
<td>60 count</td>
<td>XZ123456 Manhole Cover</td>
<td>Melted, cast, finished</td>
<td>Stainless, MS</td>
</tr>
<tr>
<td>1200 linear feet</td>
<td>AB634321 4&quot; Ductile Iron Water Pipe</td>
<td>Melted, rolled, finished</td>
<td>Piedmont, CA</td>
</tr>
</tbody>
</table>

I further certify that the products and/or materials are in full compliance with the American Iron and Steel requirements as mandated in the U.S. Environmental Protection Agency’s State Revolving Fund programs. If any of the above compliance statements change while providing material to this project we will immediately notify the supplier, prime contractor, consulting engineer, or project owner.

On behalf of IRON & STEEL, INC.,

Jane Smith
Product Quality Manager
**Covered and Non-Covered Items**

The EPA issued a waiver for De Minimis incidental components of eligible water and wastewater infrastructure projects. Funds used for such De Minimis incidental components cumulatively may comprise no more than a total of 5% of the total cost of the materials used in and incorporated into a project. The cost of an individual incidental item may not exceed 1% of the total cost of the materials used in and incorporated into a project.

De Minimis incidental items include miscellaneous, generally low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of the project. For many of these incidental components, the country of manufacture and the availability of alternatives are not readily or reasonably identifiable prior to procurement in the normal course of business. For others, the country of manufacture may be known but the miscellaneous character in conjunction with the low cost, individually and (in total) as typically procured in bulk, mark them as properly incidental.

Examples of incidental components could include small washers, screws, fasteners (i.e., nuts and bolts), miscellaneous wire, corner bead, ancillary tube, etc. Examples of items that are clearly not incidental include significant process fittings (i.e., tees, elbows, flanges, and brackets), distribution system fittings and valves, force main valves, pipes, treatment and storage tanks, large structural supports, etc.

In consultation with their contractors, assistance recipients should determine the items to be covered by this waiver and must retain relevant documentation (i.e. invoices) as to those items. Assistance recipients must summarize in reports to the State of Iowa the types and/or categories of items to which this waiver is applied, the total cost of incidental components for each type or category, and the calculations by which they determined the total cost of materials used in and incorporated into the project.

The successful bidder will fill out the materials spreadsheet (shown below) and submit it to the assistance recipient to indicate iron and steel items proposed to be procured for the project.

![American Iron and Steel Materials Spreadsheet](image-url)

*American Iron and Steel Materials Spreadsheet – to be Submitted by Successful Bidder

Iowa Department of Natural Resources - January 2021

Based on EPA Memorandum (4/15/2014): De Minimis Waiver of Section 436 of P.L. 113-76, Consolidated Appropriation Acts (CAA), 2014

| Project: | |
| Bidder: | |
| Date: | |

*Covered Product Categories include: Lined or unlined pipes or fittings; manhole covers; municipal castings; pipe clamps and restraints; valves; structural steel; hydrants, tanks; flanges; reinforced precast concrete; construction materials.

**Incidental items are miscellaneous, generally low-cost items, often procured in bulk, such as washers, screws, fasteners, small amounts of wire, etc.

| Covered Products Category* | Description of Covered Products | Documentation Will be Obtained | Item is Incidental and will be claimed under De Minimis Waiver** | Bid Amount Covered Products | Bid Amount Incidentally | |
|----------------------------|---------------------------------|-------------------------------|---------------------------------------------------------------|-----------------------------|--------------------------|
| 1 | Choose an item. |  |  |  |  |  |
| 2 | Choose an item. |  |  |  |  |  |
| 3 | Choose an item. |  |  |  |  |  |
| 4 | Choose an item. |  |  |  |  |  |
| 5 | Choose an item. |  |  |  |  |  |

January 2021
At the end of construction, the contractor will submit a final list showing covered items being claimed as incidental components under the De Minimis Waiver. Assistance recipients will complete a De Minimis Waiver Incidental Components List for the entire project to demonstrate compliance with the De Minimis Waiver cost requirements outlined above.

American Iron and Steel - De Minimis Waiver Incidental Components List
Iowa Department of Natural Resources – January 2021
Based on EPA Memorandum (4/15/2014): De Minimis Waiver of Section 436 of P.L. 113-76, Consolidated Appropriation Acts (CAA), 2014

This form is to be used by the State Revolving Fund (SRF) applicant to identify all non-domestic iron and steel incidental components permanently incorporated into an SRF project that meet the requirements of the public interest De Minimis Waiver. This form can also be used by individual contractors to submit their final incidental components list to the SRF applicant.

<table>
<thead>
<tr>
<th>SRF Applicant:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRF Project #:</td>
</tr>
<tr>
<td>Submitted By:</td>
</tr>
<tr>
<td>Date:</td>
</tr>
<tr>
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<td>Total amount claimed as De Minimis Incidental Components:</td>
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<tr>
<td>Percent: (must be 5% or less of total materials cost)</td>
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<td>Individual Contractor De Minimis List</td>
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These documents are available on-line at http://www.iowasrf.com/about_srf/use-of-american-iron-and-steel/.
PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

This term and condition implements 2 CFR 200.216 and is effective for obligations and expenditures of EPA financial assistance funding on or after 8/13/2020. EPA recipients and subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to:

(a) Procure or obtain, extend or renew a contract to procure or obtain;
(b) Enter into a contract (or extend or renew a contract) to procure; or
(c) Obtain the equipment, services, or systems that use "covered telecommunications equipment or services" identified in the regulation as a substantial or essential component of any system, or as critical technology as part of any system.

Certain equipment, systems, or services, including equipment, systems, or services produced or provided by entities subject to the prohibition are recorded in the System for Award Management exclusion list, website: https://www.sam.gov/SAM/.

(1) As described in Public Law 115-232, section 889, covered telecommunications equipment or services includes:
   (i) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
   (ii) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
   (iii) Telecommunications or video surveillance services provided by such entities or using such equipment.
   (v) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

(2) Consistent with 2 CFR 200.471, costs incurred for telecommunications and video surveillance services or equipment such as phones, internet, video surveillance, and cloud servers are allowable except for the following circumstances:
   (i) Obligating or expending EPA funds for covered telecommunications and video surveillance services or equipment or services to procure (enter into, renew or extend contracts) or obtain the equipment, services, or systems as described in 2 CFR 200.216.

I understand the above prohibitions and certify that the project will be in compliance with all the requirements.

Typed Name & Title of Authorized Representative  

Signature of Authorized Representative  Date  

January 2021
"General Decision Number: IA20220081 01/07/2022

Superseded General Decision Number: IA20210081

State: Iowa

Construction Types: Heavy and Highway


HIGHWAY CONSTRUCTION PROJECTS and HEAVY CONSTRUCTION PROJECTS

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

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $5.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

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

Additional information on contractor requirements and worker protections under the Executive Orders is available at www.dol.gov/whd/govcontracts.
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**TRUCK DRIVER (AND PAVEMENT MARKING DRIVER/SWITCHPERSON)**

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**ZONE DEFINITIONS**

ZONE 1 The Counties of Polk, Warren, and Dallas for all Crafts, and Linn County Carpenters only.
ZONE 2 The Counties of Dubuque for all Crafts and Linn County for all Crafts except Carpenters.
ZONE 3 The Cities of Burlington (including West Burlington), Clinton, Fort Madison, Keokuk, and Middleton (including the Iowa Army Ammunition Plant) and Muscatine (and abutting municipalities of any such cities).
ZONE 4 Story, Black Hawk, Cedar, Jasper, Jones, Jackson, Louisa, Madison, and Marion Counties; Clinton County (except the City of Clinton), Johnson County, Muscatine County (except the City of Muscatine), the City of Council Bluffs, Lee County and Des Moines County.
ZONE 5 All areas of the state not listed above.

**LABORER CLASSIFICATIONS - ALL ZONES**

GROUP AA - {Skilled pipelayer (sewer, water and conduits) and tunnel laborers; asbestos abatement worker} (Zones 1, 2 and 3).

GROUP A - Carpenter tender on bridges and box culverts; curb machine (without a seat); deck hand; diamond & core drills; drill operator on air tracs, wagon drills and similar drills; form setter/stringman on paving work; gunnite nozzleman; joint sealer kettleman; laser operator; powderman tender; powderman/blaster; saw operator; {pipelayer (sewer, water, and conduits); sign erector*; tunnel laborer; asbestos abatement worker (Zones 4 and 5)}, sign erector.

GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400 cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on demolition; drill tender; dumpmen; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chairs; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except stripers); paving breaker; planting trees, shrubs and
flowers; power broom (not self-propelled); power huggyman; rakers; rodman (tying reinforcing steel); sandblaster; seeding and mulching; sewer utility topman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline, or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning end shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint strippers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor; water carrier.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - All terrain (cfl road) forklift; asphalt breakdown roller (vibratory); asphalt laydown machine; asphalt plant; asphalt screed; bulldozer (finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper; directional drill (60,000 lbs) pullback and above; dragline and power shovel; dredge engineer; excavator (over \[ \text{cu. yd.}\]); front end loader (4 cy. and over); horizontal boring machine; master mechanic; milling machine (over 350 hp); motor grader (finish); push cat; rubber tired backhoe (over \[ \text{cu. yd.}\]); scraper (12 cu. yd. and over or finish); Self-propelled rotary mixer/road reclaimor; sideload tractor; slipform portland concrete paver; tow or push boat; trenching machine (Cleveland 80 or similar)

GROUP B - Articulated off road hauler, asphalt heater/planer; asphalt material transfer vehicle; asphalt roller; belt loader or similar loader; bulldozer (rough); churn or rotary drill; concrete curb machine; crawler tractor pulling ripper, disk or roller; deck hand/oiler; directional drill (less than 60,000 (lbs) pullback); distributor; excavator (1/2 cu. yd. and under); form riding concrete paver; front end loader (2 to less than 4 cu. yd.); group equipment greaser; mechanic; milling machine (350 hp. and less); paving breaker; portland concrete dry batch plant; rubber tired backhoe (1/2 cu. yd. and under); scraper (under 12 cu. yd.); screening, washing and crushing plant (mobile, portable or stationary); shoulder machine; skid loader (1 cu. yd. and over); subgrader or trimmer; trenching machine; water wagon on compaction.

GROUP C - Boom & winch truck; concrete spreader/belt placer; deep wells for dewatering; farm type tractor (over 75 hp.) pulling disc or roller; forklift; front end loader (under 2 cu. yd.); motor grader (rough); pile hammer power unit; pump (greater than three inch diameter); pumps on well points; safety boat; self-propelled roller (other than asphalt); self-propelled sand blaster or shot blaster, water blaster or striping grinder/remover; skid loader (under 1 cu. yd.); truck mounted post driver.

GROUP D - Boiler; compressor; cure and texture machine; dow box; farm type or utility tractor (under 75 hp.) pulling disk, roller or other attachments; group greaser tender; light plants; mechanic tender; mechanical broom; mechanical heaters; oiler; pumps (under three inch diameter); tree chipping machine; truck crane driver/oiler.

** CARPENTERS AND PILEDIVERMEN, or IRONWORKERS (ZONE 5)

Setting of structural steel; any welding incidental to bridge
or culvert construction; setting concrete beams.

* ADDED CRAFT - SIGN ERCTOR

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

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

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Division National Office Branch of Wage Surveys. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

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

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

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

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

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

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

END OF GENERAL DECISION
INDEX


2. Contract Documents and Specifications, Des Moines Water Works
JUNE 25, 2021

GEOTECHNICAL EXPLORATION

WESTERN INGERSOLL SEWER SEPARATION – PHASE 3
GRAND AVENUE TO CENTER STREET & 35TH TO 40TH STREETS
DES MOINES, IOWA

PERFORMED FOR

CITY OF DES MOINES – DEPARTMENT OF ENGINEERING
602 ROBERT D. RAY DRIVE
DES MOINES, IA 50309
June 25, 2021

City of Des Moines
Department of Engineering
602 Robert D. Ray Drive
Des Moines, IA 50309
Attn: Justin W. Miller, P.E.

RE: Geotechnical Exploration
Western Ingersoll Sewer Separation – Phase 3
Grand Ave to Center Street & 35th to 40th St
Des Moines, Iowa
PN 191411A

Dear Mr. Miller:

As authorized, Allender Butzke Engineers Inc. (ABE) has completed the geotechnical exploration for the above referenced project. The geotechnical exploration was conducted to evaluate physical characteristics of subsurface conditions with respect to design and construction of this project. The enclosed report summarizes the project characteristics as we understand them, presents the findings of the borings and laboratory tests, discusses the observed subsurface conditions, and provides geotechnical engineering recommendations for this project.

We appreciate the opportunity to provide our geotechnical engineering services for this project. If you have any questions or need further assistance, please contact us at your convenience. We are also staffed and equipped to provide construction testing and inspection services on this project.

Respectfully submitted,
ALLENDER BUTZKE ENGINEERS INC.

[Signature]
Anton J. Schneider Jr., P.E.
Project Engineer

[Signature]
Matt Drummond, P.E.
Project Engineer

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.

[Signature]
Anton J. Schneider Jr., P.E.
License Number 24434
Date
My license renewal date is December 31, 2021.
Pages covered by this seal: All Pages

1 PC and 1 Email Above
Email Foth Infrastructure & Environment, LLC; Attn: Jared Rokke, P.E.
# GEOTECHNICAL EXPLORATION

**WESTERN INGERSOLL SEWER SEPARATION – PHASE 3**
**GRAND AVENUE TO CENTER STREET & 35TH TO 40TH STREETS**
**DES MOINES, IOWA**

**PN 191411A**

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT INFORMATION</td>
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<td>FIELD EXPLORATION</td>
<td>1</td>
</tr>
<tr>
<td>SUBSURFACE CONDITIONS</td>
<td>2</td>
</tr>
<tr>
<td>Soil Profile</td>
<td>2</td>
</tr>
<tr>
<td>Groundwater Level Observations</td>
<td>3</td>
</tr>
<tr>
<td>ANALYSES AND RECOMMENDATIONS</td>
<td>3</td>
</tr>
<tr>
<td>Existing Fill</td>
<td>3</td>
</tr>
<tr>
<td>Site Preparation and Fill Construction</td>
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<tr>
<td>Excavation, Stability, and Dewatering</td>
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<td>Pavement Subgrade Preparation</td>
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<td>Frost Heave</td>
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<td>GENERAL</td>
<td>8</td>
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</table>

## APPENDIX

- Laboratory Test Results
- Boring Log Description/Legend
- Boring Logs
- Profiles of Borings
- Site Plan
GEOTECHNICAL EXPLORATION

WESTERN INGERSOLL SEWER SEPARATION – PHASE 3
GRAND AVENUE TO CENTER STREET & 35TH TO 40TH STREETS
DES MOINES, IOWA

PN 191411A

June 25, 2021

PROJECT INFORMATION

The City of Des Moines (the City) is planning improvements to separate stormwater from sanitary sewer on the west side of Des Moines, Iowa near Western Ingersoll Avenue between Pleasant Street to Grand Avenue and 31st Street to 42nd Street. The construction for this project will be performed in several phases. This report covers Phase 3 between Grand Avenue to Center Street and 35th Street to 40th Street. Excavation depths of up to 20 feet are expected for the installation of the new storm sewer and intakes, which will generally be limited to one side of the street to reduce the amount of disturbance. Minimal grade changes (less than 1 foot) along the roadways are expected.

FIELD EXPLORATION

Eleven borings (Boring Nos. 21 through 25 and 28 through 33) were conducted at this site to depths of 10 to 20 feet below existing grades on May 24 and 25, 2021. Approximate locations of test borings are shown on the enclosed Site Plan. The general boring locations and proposed depths were selected by the City. The final boring locations were selected by ABE in the field depending on locations of underground and overhead utilities. The boring surface elevations, which were converted to the City of Des Moines datum and are indicated on the enclosed Boring Logs, and locations were surveyed by ABE with GPS equipment. Methods of drilling, sampling, standard laboratory testing, and classifying of subsurface materials are discussed in the Boring Log Description/Legend pages of the Appendix.
SUBSURFACE CONDITIONS

Soil Profile

Detailed descriptions of soils encountered by this exploration are provided on the Boring Logs enclosed in the Appendix. The Profile of Boring (Plate A-1) presented in the Appendix depicts the relative deposit elevations in the borings. Following is a discussion of the subsurface materials encountered in the borings. Unless otherwise indicated, the depths of soil strata and groundwater levels are referenced from below existing grade at the individual boring locations at the time of drilling. Table A presents pavement thicknesses encountered in each of the borings.

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>HMA (in)</th>
<th>PCC (in)</th>
<th>Brick (in)</th>
<th>Subbase (in)</th>
<th>Street</th>
<th>Northing (ft)</th>
<th>Easting (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>8</td>
<td>--</td>
<td>4</td>
<td>--</td>
<td>Center St</td>
<td>579985.7</td>
<td>1594886.6</td>
</tr>
<tr>
<td>22</td>
<td>5</td>
<td>--</td>
<td>4</td>
<td>9</td>
<td>Center St</td>
<td>579964.4</td>
<td>1595211.9</td>
</tr>
<tr>
<td>23</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>10</td>
<td>35th St</td>
<td>579751.8</td>
<td>1595511.6</td>
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<tr>
<td>24</td>
<td>3</td>
<td>--</td>
<td>--</td>
<td>9</td>
<td>35th St</td>
<td>579366.1</td>
<td>1595516.8</td>
</tr>
<tr>
<td>25</td>
<td>3</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>35th St</td>
<td>578596.1</td>
<td>1595514.4</td>
</tr>
<tr>
<td>28</td>
<td>3</td>
<td>--</td>
<td>--</td>
<td>9</td>
<td>36th St</td>
<td>577589.5</td>
<td>1595196.5</td>
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<tr>
<td>29</td>
<td>6</td>
<td>--</td>
<td>--</td>
<td>12</td>
<td>36th St</td>
<td>577418.0</td>
<td>1595193.1</td>
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<tr>
<td>30</td>
<td>6</td>
<td>--</td>
<td>8</td>
<td>10</td>
<td>Grand Ave</td>
<td>577315.9</td>
<td>1594754.1</td>
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<tr>
<td>31</td>
<td>4</td>
<td>--</td>
<td>10</td>
<td>9</td>
<td>Grand Ave</td>
<td>577322.1</td>
<td>1594135.9</td>
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<tr>
<td>32</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>Grand Ave</td>
<td>577327.3</td>
<td>1593655.0</td>
</tr>
<tr>
<td>33</td>
<td>5</td>
<td>--</td>
<td>--</td>
<td>13</td>
<td>Woodland Ave</td>
<td>578656.8</td>
<td>1595199.3</td>
</tr>
</tbody>
</table>

1) Crushed rock with fines possibly with cinders
2) Sand with varying amounts of gravel and/or concrete fragments

Existing fill consisting of lean clay (CL) and fat clay (CH) with varying amounts of sand, gravel, and concrete fragments was encountered beneath the pavement sections in Boring Nos. 21, 23, 24, 25, 28, and 29. The moist to very moist existing fill extended to depths of 1.3 to 4 feet.

Wisconsinan glacial till was encountered underlying the pavement sections in Boring Nos. 22 and 30 through 33, and the fill in Boring Nos. 21, 25, 28, and 29. The Wisconsinan glacial till, which consisted of dark brown, brown-gray, dark brown-gray, gray-brown and dark gray, moist to very moist, lean clay (CL) and lean to fat clay (CL-CH) with varying amounts of sand and gravel, was generally medium stiff to stiff in consistency, with the exception of Boring Nos. 31 and 32 along Grand Avenue, where stiff to very stiff consistencies were encountered below depths of 5 to 6 feet. In Boring Nos. 21, 22, 25, 28, 31, and 32, the Wisconsinan glacial till extended to depths of 7.5 to 12.5 feet, while the remaining Boring Nos. 29 and 30 terminated in the medium stiff to stiff Wisconsinan glacial till near depths of 15 feet.
In Boring Nos. 24 and 25, B-horizon loess consisting of brown-gray to gray-brown lean to fat clay (CL-CH) was encountered underlying the fill or Wisconsinan glacial till. The moist and medium stiff B-horizon loess in Boring Nos. 24 and 25 transitioned to its parent material loess near depths of 6 and 12 feet, respectively. Brown, brown-gray, gray-brown, gray and dark gray lean clay (CL) loess was also encountered underlying the fill or Wisconsinan glacial till in Boring Nos. 21, 22, 23, 28, 31, 32, and 33. The moist to very moist and soft to medium stiff loess extended to a depth of 13.5 feet in Boring No. 23, while the remaining borings terminated in the loess near depths of 10 to 20 feet.

Pre-Illinoian glacial till consisting of brown and red-brown lean to fat clay (CL-CH) with varying amounts of sand and gravel was encountered underlying the loess in Boring No. 23. The boring terminated in the stiff Pre-Illinoian glacial till near a depth of 20 feet.

**Groundwater Level Observations**

The borings were monitored during and shortly after drilling operations to detect moisture seepage and groundwater accumulation. The results of our water level observations are noted on the Boring Logs enclosed in the Appendix. During drilling operations, moisture seepage was noted near a depth of 12 feet in Boring No. 21. Groundwater accumulation was observed near depths of 12 to 18 feet in Boring Nos. 21, 25, and 28 shortly after completion of drilling operations while no groundwater accumulation was observed in the remaining borings.

It should be recognized that these short-term water levels are not necessarily a true indication of the groundwater table. Long-term observations would be necessary to accurately define the groundwater variations at this site. Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, surface drainage, subsurface drainage, site topography, irrigation practices, and ground cover (pavement or vegetation).

**ANALYSES AND RECOMMENDATIONS**

**Existing Fill**

Existing fill consisting of lean clay (CL) and fat clay (CH) with varying amounts of silt, gravel, and concrete fragments was encountered beneath the pavement sections in six of the eleven borings extending to depths of 1.3 to 4 feet. Other fill thicknesses or material compositions could be present in other unexplored areas of the site.

Based on boring information, most of the moist to very moist fill appears to be comprised of suitable (clean or with trace amounts of debris) lean clay (CL) material with the exception of the fat clay (CH) shale fill encountered in Boring No. 29 between depths of 1.5 to 3.5 feet. Shale is
considered to be highly expansive and unsuitable as subgrade material. Typically, we recommend separating the pavement by a minimum of 1.5 feet of low plasticity cohesive (Liquid Limit (LL) ≤ 45, Plasticity Index (PI) ≤ 23) soils or 1 foot of crushed rock with drains when the expansive shale is naturally present near or at the pavement subgrade elevation. However, we do not expect shale to be naturally present at subgrade elevation for this project.

Without documented background of the fill placement, there would be risk associated with constructing settlement sensitive structures on existing fill. While variable existing fill would pose a risk to new pavements, the City may wish to assume the risk of pavement settlement and cracking by constructing over the existing fill soils since pavements are more easily repaired. The City’s satisfaction of existing pavement conditions where pavements are supported on fill should be considered when evaluating this risk. As a minimum, we recommend that proof-rolling where feasible, geotechnical probing, testing, and technical observations be conducted by an ABE geotechnical representative during pavement subgrade preparation to further evaluate the suitability and extent of the existing fill. If rubble materials, poorly compacted, or otherwise unsuitable fill are encountered during this process, we recommend that an over-excavation and compacted backfill replacement with suitable soil procedure be implemented to provide more reliable subgrade support.

Site Preparation and Fill Construction

Site preparation will include demolition of the existing pavement and abandonment or relocation of existing utilities. Any abandoned utility lines should be completely removed or capped and grouted full. Construction debris removed from this site should be properly disposed in a construction/demolition landfill or recycling facility. Installation of new sanitary sewers and storm sewers generally along the sides of the streets will require excavation and recompaction of much of the existing roadbed. New pavements will likely be supported on both existing area fill, existing sewer trench backfill under the center of the streets, natural glacial and loess soils, and newly placed fill. Therefore, careful attention should be made when backfilling excavations to ensure compaction procedures follow the guidelines outlined in Table B.

We recommend that low plasticity cohesive (LL ≤ 45, PI ≤ 23) or cohesionless soils, free of rubble, debris and organics, be used as compacted fill. Based on our borings it appears a majority of the lean clay (CL) existing fill would be suitable for reuse as engineered fill. The lean clay (CL) portions of Wisconsinan glacial till or loess soils would also be suitable soil types for general backfill applications. Off-site borrow materials should be tested and verified by ABE.

Typical pavement movements due to moderately expansive soils, such as the lean to fat clay (CL-CH) portions of the fill, Wisconsinan glacial till, B-horizon loess, and Pre-Illinoian glacial till encountered in the borings, are similar to movements that pavements commonly experience from frost heave. Considering that the proposed pavements will be subject to frost heave movements, the
risk of movement due to these moderately expansive soils may be acceptable and therefore, these soils could be considered for reuse as fill. However, if a more conservative approach is desired to reduce the risk of possible movements and cracking associated with moderately expansive soils, pavements may be supported on 1 or more feet of low plasticity cohesive soils or cohesionless soils such as drained crushed rock similar to Iowa DOT 4213 Modified Subbase. As previously discussed in the Existing Fill section, there are greater risks associated with the expansive fat clay (CH) shale fill encountered in Boring No. 29, and should be separated from the new pavement by 1.5 feet of suitable cohesive soils or 1 foot of drained crushed rock, where feasible.

### TABLE B
**RECOMMENDED DEGREE OF COMPACTION GUIDELINES**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>95%</td>
<td>98%</td>
<td>70%</td>
</tr>
<tr>
<td>Class 2</td>
<td>90%</td>
<td>93%</td>
<td>45%</td>
</tr>
<tr>
<td>Class 3</td>
<td>85%</td>
<td>88%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Class 1 - Subgrade for building foundations, slabs-on-grade, pavements and other critical backfill areas.

Class 2 - Backfill adjacent to structures not supporting other structures - Minor subsidence possible.

Class 3 - Backfill in non-critical areas - Moderate subsidence possible.

*Use Relative Density technique (ASTM D4253 & D4254) where Standard Proctor technique (ASTM D698) does not result in a definable maximum dry density and optimum moisture content.

The on-site soils can be excavated utilizing conventional excavation equipment. Granular soils can generally be suitably compacted with vibratory compaction equipment, whereas cohesive soils are more suitable for compaction with sheepfoot or pneumatic type compactors. Care should be exercised in properly backfilling and compacting all trenches, especially utility trenches under or adjacent to the pavement. Loosely compacted or sand backfilled trenches can collect surface water and inadvertently direct it to the pavement subgrade and cause softening of the soil as well as increasing frost heave potential.

At the time of this geotechnical exploration, moisture content of the upper existing fill and deeper natural soils were generally near to well above the recommended moisture content range. Depending upon precipitation levels prior to and during construction, adjustment of soil moisture content may be required in order to lower or raise the moisture to within the recommended moisture content range. Discing and aeration is generally the most economical method to lower soil moisture
content, if climatic conditions allow. Chemical modification of very moist soils with quicklime, Class C fly ash, or Portland cement can be accomplished if construction scheduling does not permit field drying. If grading or fill placement at the site will be conducted during colder weather, it should be noted that common chemical modification methods may not be reactive when temperatures are near or below 40° Fahrenheit.

Excavation, Stability, and Dewatering

Boring information indicates excavations at the site for utilities will encounter predominately cohesive soils with the possibility of random wet sand seams or glacial outwash layers which occur naturally within the Wisconsinan or Pre-Illinoian glacial till soils. Granular fill was present as pavement subbase in the majority of the borings and could be present as utility trench backfill or fill in other unexplored locations. It is expected that water seepage can be controlled by permitting it to drain into temporary construction sumps and be pumped outside the perimeter of the excavations. Although sand was not encountered in the borings, more extensive dewatering such as sand points and wells may be required for excavations which extend down into water bearing sand layers. We recommend that prior to excavating in saturated sand, water levels be lowered and maintained 2 feet or more below the bottom of excavations to prevent upward seepage forces which could reduce subgrade support.

The extent of bracing or sloping of open cut excavations will be dependent upon depth of cut, groundwater conditions, soils encountered, length of time the excavation will be open, area available for excavation and local governing regulations. Predominately cohesive soils may appear to stand nearly vertical in shallow excavations for short periods of time. However, soil creep, surcharge loads, precipitation, subsurface moisture seepage, construction activity vibrations and other factors may cause these soils to cave within an unpredictable period of time. Excavations encountering sand may tend to cave rapidly, especially if water is flowing through the sand. Unstable granular excavation walls may also cause surrounding cohesive soils to become unstable. Temporary shoring, flattening of the excavation slopes or use of trench boxes may be required to maintain a safe condition. Determining the appropriate OSHA classifications of the soil types encountered and implementing the required provisions for sloping, shoring, and bracing of excavations throughout the project during construction are the responsibility of the contractor per OSHA.

Pavement Subgrade Preparation

Based on boring information and anticipated sewer construction, pavement subgrade materials will likely consist of existing fill and new compacted backfill for utility trenches and structures. Uniform subgrade support is critical in pavement performance. We recommend that the prepared subgrade depth be at least 1 foot deep after fine grading or trimming and extend 2 feet
beyond the edge of the pavements. The recommended 1 foot of compacted subgrade may necessitate undercutting and reworking suitable soils in cut areas.

Subgrade preparation should be completed shortly before paving operations commence and is to be maintained in suitable condition until paved. Damages caused by construction traffic or deterioration due to adverse weather are to be repaired prior to paving. Subgrade preparation to 1-foot depths for some soil types may not be suitable under repeated heavy construction vehicle loads and may require stabilization to greater depths, especially in areas such as near Boring Nos. 24, 28, and 31, where soft soils were encountered in the upper 5 feet. In these areas and possible other unexplored areas of the project, additional stabilization measures to support the paving operations such as thicker (2 feet or more) compacted subgrades, chemical stabilization utilizing Class C flyash or quicklime, crushed rock bases, and geosynthetics may be required if the paving delivery vehicles cannot stay off the prepared subgrade and pumping concrete or conveying asphalt is not viable. Frequently, the necessity for these additional measures is not evident until time of construction, usually depending upon weather conditions prior to and during the construction process. However, construction schedules and other influences may dictate additional measures to complete the paving.

Results of Standard Proctor and Atterberg Limits tests performed on existing local alluvium and fill samples obtained from Boring Nos. 23 and 32 are presented in the following Table C and enclosed in the Appendix (Figures GS-1, PR-1 and PR-2). Test results indicate the lean clay (CL) loess and Wisconsinan glacial till soils, which are respectively classified as AASHTO A-6 and A-7-6 soil types with respective group indices of 29 and 14, would be considered suitable materials for pavement subgrade preparation by Iowa SUDAS and Iowa DOT.

**TABLE C
SUMMARY OF LABORATORY TEST RESULTS**

<table>
<thead>
<tr>
<th>Soil Deposit</th>
<th>Boring No.</th>
<th>Depth (ft)</th>
<th>Standard Proctor</th>
<th>Liquid Limit/Plasticity Index</th>
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</thead>
<tbody>
<tr>
<td>Loess</td>
<td>23</td>
<td>1 - 5</td>
<td>108.3</td>
<td>17.9</td>
</tr>
<tr>
<td>Wisconsinan Glacial Till</td>
<td>32</td>
<td>1.5 - 5</td>
<td>114.7</td>
<td>14.9</td>
</tr>
</tbody>
</table>

Suitable cohesive soils compacted to a minimum of 95 percent of maximum dry density as determined by ASTM D 698 would provide a design support capability equivalent to a CBR value of 3 or a modulus of subgrade reaction value of 100 pounds per cubic inch. In order to achieve the desired fill properties, cohesive soils should be placed within a moisture content range of -1 to +4 percent of the materials optimum moisture content as determined by Standard Proctor (ASTM D
procedure. Soils compacted closer to the materials optimum moisture content will exhibit greater stability under construction traffic loading. Subgrade compaction, moisture content, and depth should be verified by and ABE geotechnical representative.

**Frost Heave**

Key elements contributing to frost heave including freezing temperatures, available water, and fine-grained frost susceptible soils are generally present at sites in Iowa. As a result, frost heave problems are generally common (and most noticeable) in pavements or sidewalks adjacent to non-frost susceptible elements such as manholes and light poles. Frost heave can cause pavement cracks to develop parallel to and several feet from pavement edges. This generally occurs where cleared paved areas exposed to freezing temperatures heave more than adjoining paved areas insulated by piled snow, especially in low-lying areas. Sometimes it is not readily apparent why frost heave problems occur at one location and not at another seemingly similar location.

While it is appropriate to implement measures to reduce frost heave such as replacing frost susceptible soils with less frost susceptible soils, sealing cracks/joints to reduce surface water infiltration, or drainage improvements (surface and subsurface), these measures may simply move the frost heave problem to a different location where preventative measures have not been implemented. Having a smooth transition between heaved and non-heaved areas is desirable, but may be difficult and/or costly to accomplish.

**GENERAL**

The analyses and recommendations in this report are based in part upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations which may occur between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

It is recommended that the geotechnical engineer be provided the opportunity to review the plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observation during earthwork and foundation construction phases to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical
engineering practices. No warranty, expressed or implied, is made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by the geotechnical engineer.

The scope of our service was not intended to include any environmental assessment or exploration for the presence of hazardous or toxic materials in the soil, surface water, groundwater or air on, below or adjacent to this site.
Particle Size Distribution Report

<table>
<thead>
<tr>
<th>% +3&quot;</th>
<th>% Gravel</th>
<th>% Sand</th>
<th>% Fines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coarse</td>
<td>Fine</td>
<td>Coarse</td>
</tr>
<tr>
<td>○</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
</tr>
<tr>
<td>□</td>
<td>0.0</td>
<td>0.0</td>
<td>1.7</td>
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<table>
<thead>
<tr>
<th>LL</th>
<th>PI</th>
<th>D_85</th>
<th>D_50</th>
<th>D_30</th>
<th>D_15</th>
<th>D_10</th>
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<tr>
<td>45</td>
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<td>0.0401</td>
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MATERIAL DESCRIPTION
○ Gray-brown lean clay, trace sand
□ Brown to brown gray lean clay with sand, trace gravel

Project No. 191411A  Client: City of Des Moines - Dept. of Engineering
Project: Western Ingersoll Sewer Separation
Grand Ave to Center St & 34th to 40th St | Des Moines, Iowa
○ Location: Boring No. 23  Depth: 1' to 5'
□ Location: Boring No. 32  Depth: 1.5' to 5'

Remarks:
○ Loess
□ Wisconsin Glacial Till

ALLENDER BUTZKE ENGINEERS, INC.

Figure GS-1
### PROCTOR TEST REPORT

![Graph showing dry density vs. water content]

**Test specification:** ASTM D 698-12 Method A Standard

<table>
<thead>
<tr>
<th>Elev/Depth</th>
<th>Classification</th>
<th>USCS</th>
<th>AASHTO</th>
<th>Nat. Moist.</th>
<th>Sp.G.</th>
<th>LL</th>
<th>PI</th>
<th>% &gt; #4</th>
<th>% &lt; Nc.200</th>
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</thead>
<tbody>
<tr>
<td>1' to 5'</td>
<td></td>
<td>CL</td>
<td>A-7-6(29)</td>
<td>27.1</td>
<td>2.68</td>
<td>45</td>
<td>29</td>
<td>0.5</td>
<td>55.0</td>
</tr>
</tbody>
</table>

**TEST RESULTS**

- Maximum dry density = 108.3pcf
- Optimum moisture = 17.9%

**Project No.** 191411A  **Client:** City of Des Moines - Dept. of Engineering

**Project:** Western Ingersoll Sewer Separation

- Grand Ave to Center St & 34th to 40th St | Des Moines, Iowa

**Location:** Boring No. 23

**Remarks:** Loess

---

**ALLENDER BUTZKE ENGINEERS, INC.**

*Figure PR-1*
Test specification: ASTM D 698-12 Method A Standard

<table>
<thead>
<tr>
<th>Elev/Depth</th>
<th>Classification</th>
<th>Nat. Moist.</th>
<th>Sp.G.</th>
<th>LL</th>
<th>PI</th>
<th>% &gt; #4</th>
<th>% &lt; No.200</th>
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</thead>
<tbody>
<tr>
<td>1.5' to 5'</td>
<td>CL A-6(14)</td>
<td>2.68</td>
<td>36</td>
<td>22</td>
<td>1.7</td>
<td>71.8</td>
<td></td>
</tr>
</tbody>
</table>

**TEST RESULTS**

Maximum dry density = 114.7 pcf

Optimum moisture = 14.9%

**MATERIAL DESCRIPTION**

Brown to brown-gray lean clay with sand, trace gravel

**Remarks:**

Wisconsinian Glacial Till

**Project No.** 191411A  **Client:** City of Des Moines - Dept. of Engineering

**Project:** Western Ingersoll Sewer Separation

Grand Ave to Center St & 34th to 40th St | Des Moines, Iowa

**Location:** Boring No. 32

**ALLENDER BUTZKE ENGINEERS, INC.**
BORING LOG DESCRIPTION/LEGEND
(page 1 of 3)

The material types encountered during the drilling operations were recorded on field logs. The profile represented on the Boring Log is based on final classification performed by a geotechnical engineer using the field logs, laboratory observation and testing. The material stratigraphy demarcation lines shown on the Boring Logs indicate changes in soil characteristics, however, actual soil changes or variations may occur as a gradual transition. Soil profile discussion, Log Boring information, water levels and recommendations presented in this report are based upon measured depths below ground levels existing at time of the field exploration, unless otherwise specified.

DRILLING AND SAMPLING

The borings were conducted with either a truck or all-terrain rotary drill rig using the drilling methods indicated on each Boring Log. Soil sampling and/or in-situ testing such as Shelby Tube (ST), split-spoon (SS), drive cone (DC), or core (C) was conducted at depth intervals which were selected in consideration of the characteristics of the proposed construction. Generally undisturbed soil samples are taken at 5 foot depth intervals or change in soil types. Disturbed soil samples from the auger, either jar size or bulk size samples, may be taken at intermediate intervals for the purpose of soil classification or laboratory testing. Borings conducted for soil classification only, will show no designation of sampling although disturbed sampling is performed. Soil samples obtained in the field were identified and sealed for transportation to the laboratory for performance of pertinent physical testing and engineering classification.

Drilling Methods

CFA - Continuous Flight Auger: 4, 6, or 8-inch diameter (ASTM D1452).
RD - Rotary Drilling: Using drilling fluid in cased or uncased boring (ASTM D2113).
HSA - Hollow Stem Auger: 6 or 8-inch diameter, continuous flight auger remains in boring with soil removed from the hollow stem through which undisturbed sampling is conducted.
HA - Hand Auger: 4-inch or less diameter.

Sample Types

ST - Shelby Tube: Thin-wall ed tube samples of cohesive soils (ASTM D1587).
SSA - Split Spoon with 140 lb automatic hammer: Standard penetration test and split-barrel samples (ASTM D1586).
DC - Drive Cone: Dynamic in-place testing of soil using a 2-inch diameter cone with a 60 degree point driven into the soil for continuous 1-foot intervals in the same manner as Split Spoon, no sample is obtained.
C - Core: Sampling hard soil or bedrock with a diamond core barrel in a rotary drill boring (ASTM D2113).
SPT - Standard Penetration Test: Number of blows required to drive sampler (split spoon or drive cone) into the soil with a 140-pound weight dropping a distance of 30-inches (ASTM D1586), number of blows recorded for each 6-inch interval in an 18-inch (or more) penetration depth, values shown are for each 6-inch interval (if series of number sets are shown) or a total of the last two 6-inch intervals (if only one number is shown) which is commonly referred to as "N" in blows per foot. High resistance is indicated by a high number of blows for a lesser penetration depth listed in inches.
BS - Bulk Sample: Disturbed.
CPT - Cone Penetration Test: Quasi-static in-place testing of soils using a 60 degree cone and friction sleeve which are steadily pushed into the soil and measure skin friction and end bearing (ASTM D3441).

STANDARD LABORATORY TESTING

Representative undisturbed soil samples obtained by the Shelby Tube sampler were tested for moisture content (ASTM D2216), density (dry) and unconfined compressive strength (ASTM D2166) in the laboratory. Results of these tests appear on the respective Boring Logs. Additional soil testing including particle size analysis (ASTM D422) and Atterberg Limits (ASTM D4318) may be conducted, if necessary, to define in more detail pertinent soil characteristics for classification in accordance with the Unified Soil Classification System. Specialized laboratory tests (if conducted) to determine pertinent soil characteristics are discussed in the "Laboratory Testing" section of the report.

WATER LEVEL MEASUREMENT

Water levels indicated on the Boring Logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with short term observations.
BORING LOG DESCRIPTION/LEGEND
(page 2 of 3)

DESCRIPTIVE SOIL CLASSIFICATION

Soil description is based on the Unified Classification System as outlined in ASTM Designations D-2487 and D-2488. This classification is primarily based upon visual and apparent physical soil characteristics, comparison with other soil samples, and our experience with the soil. Additional laboratory testing may be conducted, if necessary to define in more detail pertinent soil characteristics. The Unified Soil Classification group symbol shown on the boring logs corresponds with the group names listed below. The description includes soil constituents, moisture conditions, color and any other appropriate descriptive terms.

<table>
<thead>
<tr>
<th>Group Symbol</th>
<th>Group Name</th>
<th>Group Symbol</th>
<th>Group Name</th>
<th>Group Symbol</th>
<th>Group Name</th>
<th>Group Symbol</th>
<th>Group Name</th>
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</thead>
<tbody>
<tr>
<td>GW</td>
<td>Well-Graded Gravel</td>
<td>SW</td>
<td>Well-Graded Sand</td>
<td>CL</td>
<td>Lean Clay</td>
<td>CH</td>
<td>Fat Clay</td>
</tr>
<tr>
<td>GP</td>
<td>Poorly-Graded Gravel</td>
<td>SP</td>
<td>Poorly-Graded Sand</td>
<td>ML</td>
<td>Silt</td>
<td>MH</td>
<td>Elastic Silt</td>
</tr>
<tr>
<td>GM</td>
<td>Silty Gravel</td>
<td>SM</td>
<td>Silty Sand</td>
<td>OL</td>
<td>Organic Clay</td>
<td>OH</td>
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<td>Clayey Gravel</td>
<td>SC</td>
<td>Clayey Sand</td>
<td></td>
<td></td>
<td>PT</td>
<td>Peat</td>
</tr>
</tbody>
</table>

**RELATIVE PROPORTIONS**

<table>
<thead>
<tr>
<th>Descriptive Term(s) (Of components also present in sample)</th>
<th>Sand and Gravel % of Dry Weight</th>
<th>Fines % of Dry Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td>&lt;15</td>
<td>&lt;5</td>
</tr>
<tr>
<td>With</td>
<td>15-30</td>
<td>5-12</td>
</tr>
<tr>
<td>Modifier</td>
<td>&gt;30</td>
<td>&gt;12</td>
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</table>

**GRAIN SIZE TERMINOLOGY**

<table>
<thead>
<tr>
<th>Major Component of Sample</th>
<th>Size Range</th>
</tr>
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<tbody>
<tr>
<td>Cobbles</td>
<td>12 in. to 3 in. (300mm to 75 nm)</td>
</tr>
<tr>
<td>Gravel</td>
<td>3 in. to #4 sieve (75mm to 4.75mm)</td>
</tr>
<tr>
<td>Sand</td>
<td>#4 to #200 sieve (4.75mm to 0.074mm)</td>
</tr>
<tr>
<td>Silt or Clay</td>
<td>Passing #200 sieve (.074 mm)</td>
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**CONSISTENCY OF FINE-GRAINED SOILS**

<table>
<thead>
<tr>
<th>Unconfined Compressive Strength, $q_u$, psf</th>
<th>Consistency</th>
<th>SPT, bpf</th>
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<tbody>
<tr>
<td>&lt; 500</td>
<td>Very Soft</td>
<td>0-2</td>
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<tr>
<td>500-1,000</td>
<td>Soft</td>
<td>2-4</td>
</tr>
<tr>
<td>1,000-2,000</td>
<td>Medium Stiff</td>
<td>4-8</td>
</tr>
<tr>
<td>2,000-4,000</td>
<td>Stiff</td>
<td>8-15</td>
</tr>
<tr>
<td>4,000-8,000</td>
<td>Very Stiff</td>
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</tr>
<tr>
<td>8,000-16,000</td>
<td>Hard</td>
<td>30-100</td>
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<tr>
<td>&gt; 16,000</td>
<td>Very Hard</td>
<td>&gt;100</td>
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**RELATIVE DENSITY OF COARSE-GRAINED SOILS**

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<th>SPT, bpf</th>
<th>Relative Density</th>
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</tr>
<tr>
<td>4-10</td>
<td>Loose</td>
</tr>
<tr>
<td>10-30</td>
<td>Medium Dense</td>
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<tr>
<td>30-50</td>
<td>Dense</td>
</tr>
<tr>
<td>50-80</td>
<td>Very Dense</td>
</tr>
<tr>
<td>80+</td>
<td>Extremely Dense</td>
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### ABBREVIATIONS

#### COMMONLY USED ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ft. or '</td>
<td>feet</td>
</tr>
<tr>
<td>in. or &quot;</td>
<td>inches</td>
</tr>
<tr>
<td>psf</td>
<td>pounds per square foot</td>
</tr>
<tr>
<td>plf</td>
<td>pound per lineal foot</td>
</tr>
<tr>
<td>pcf</td>
<td>pounds per cubic feet</td>
</tr>
<tr>
<td>kip</td>
<td>1000 pounds</td>
</tr>
<tr>
<td>ksf</td>
<td>1000 pounds per square foot</td>
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<tr>
<td>klf</td>
<td>1000 pounds per lineal foot</td>
</tr>
<tr>
<td>tsf</td>
<td>tons per square foot</td>
</tr>
<tr>
<td>bpf</td>
<td>blows per foot (SPT, N)</td>
</tr>
<tr>
<td>elev.</td>
<td>Elevation</td>
</tr>
<tr>
<td>%</td>
<td>Percent</td>
</tr>
<tr>
<td>No.</td>
<td>Number</td>
</tr>
<tr>
<td>TB</td>
<td>Test Boring</td>
</tr>
<tr>
<td>N</td>
<td>blow count (SPT, bpf)</td>
</tr>
<tr>
<td>USCS</td>
<td>Unified Soil Classification System</td>
</tr>
<tr>
<td>LL</td>
<td>Liquid Limit</td>
</tr>
<tr>
<td>PL</td>
<td>Plastic Limit</td>
</tr>
<tr>
<td>PI</td>
<td>Plasticity Index</td>
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</table>
### BORING LOG NO. 21

**Project:** Western Ingersoll Sewer Separation  
Grand Ave to Center St & 34th to 40th St  
Des Moines, Iowa

**Client:** City of Des Moines - Dept. of  
602 Robert D. Ray Drive  
Des Moines, IA 50309

**Surface Elevation:** 166.2'  
**Datum:** City of Des Moines

**Date Drilled:** 5/25/2021  
**Drilling Depth, ft.:** 15  
**Drilling Method:** 4" CFA

---

**Elevation ft.** | **Depth ft.** | **Sample No.** | **Type** | **SPT Bdf.** | **Moisture Content, %** | **Dry Density,pcf** | **Unconfined Compressive Strength, psi** | **Graphic Log** | **USCS** | **Water Level** | **Depth Elevation ft.**
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
0 | 0 | | | | | | | | | | 1
164 | 164 | 1 | SSA 6 | 24.9 | | | | | | | 2
160 | 8 | 4 | ST 26.6 | 93 | 1470 | | | | | | 164.2
156 | 12 | 2 | SS 3 | 26.5 | | | | | | | 158.2
152 | 16 | 3 | ST 30.6 | 89 | 1290 | | | | | | 155.2
148 | 20 | | | | | | | | | | 148.2
144 | 24 | | | | | | | | | | 144.2
140 | | | | | | | | | | | 140.2

---

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.*

---

**Material Description**

**HMA (8"±) UNDERLAIN BY BRICK (4"±)**

- Dark gray and brown mixed sandy lean clay, trace gravel, moist

**FILL**

- Brown-gray sandy lean clay, moist to very moist
- Lean clay with sand, very moist after 5'

**WISCONSINIAN GLACIAL TILL**

- Gray-brown lean clay, very moist
- Moisture seepage near 12'

**LOESS**

- Dark gray after 14'
- End of Boring

---

**ALLENDER BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
<table>
<thead>
<tr>
<th>Elevation ft.</th>
<th>Depth ft.</th>
<th>Sample No.</th>
<th>Type</th>
<th>SPT bpf</th>
<th>Moisture Content, %</th>
<th>Dry Density pcf</th>
<th>Unconfined Compressive Strength psf</th>
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<td>4</td>
<td>1</td>
<td>SSA</td>
<td>5</td>
<td>22.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>8</td>
<td>3</td>
<td>ST</td>
<td>21.4</td>
<td>102</td>
<td>2310</td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>8</td>
<td>2</td>
<td>SSA</td>
<td>4</td>
<td>33.9</td>
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<td></td>
</tr>
<tr>
<td>148</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>136</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Material Description**

HMA (5"-2) UNDERLAIN BY BRICK (4"-2) OVER CRUSHED ROCK WITH FINES (9"-2)
Brown-gray sandy lean clay, very moist to moist

WISCONSINAN GLACIAL TILL

Gray-brown lean clay, very moist

LOESS

End of Boring

---

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.*

**Water Level Observation**

Time: at completion ______ hrs. _______ days

Depth to water: **Dry** ft. ✗ ✗ ✗ ft. ✗ ✗ ✗ ft. ✗ ✗

---

**ALLENDER BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
**BORING LOG NO. 23**

**EASTING:** 1595512  **NORTHING:** 579752

**Project:** Western Ingersoll Sewer Separation  
Grand Ave to Center St & 34th to 40th St  
Des Moines, Iowa

**Client:** City of Des Moines - Dept. of  
602 Robert D. Ray Drive  
Des Moines, IA 50309

**Date Drilled:** 5/25/2021  **Drilling Method:** 4" CFA  
**Drilling Depth, ft.:** 20

---

**Surface Elevation:** 159.4'  
**Datum:** City of Des Moines

---

**Material Description**

**HMA (2") UNDERLAIN BY CRUSHED ROCK WITH FINES (10")**

- Dark brown sandy lean clay, trace gravel, moist  
  **FILL**
- Gray-brown lean clay, moist  
  LL = 45, PI = 29

**Very moist after 7"**

**LOESS**

**Brown lean to fat clay with sand, moist**

**RED-BROWN SANDY LEAN TO FAT CLAY, TRACE GRAVEL, AFTER 15"**

**PRE-ILLINOIAN GLACIAL TILL**

- Brown after 18''

**End of Boring**

---

*The stratification lines represent the approximate boundary lines between material types; in-situ, the transition may be gradual.*

---

**ALLENDER BUTZKE ENGINEERS, INC.**  
Geotechnical | Environmental | Construction Q.C.
# Boring Log NO. 24

**Project:** Western Ingersoll Sewer Separation  
Grand Ave to Center St & 34th to 40th St  
Des Moines, Iowa

**Client:** City of Des Moines - Dept. of  
602 Robert, D. Ray Drive  
Des Moines, IA 50309

- **Surface Elevation:** 153.5'  
- **Datum:** City of Des Moines  
- **Date Drilled:** 5/25/2021  
- **Drilling Method:** 4" CFA  
- **Drilling Depth, ft.:** 15  
- **Page:** 1 of 1

### Material Description

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Depth</th>
<th>Sample No.</th>
<th>Type</th>
<th>Moisture Content %</th>
<th>Dry Density (pcf)</th>
<th>Unconfined Compressive Strength (psi)</th>
<th>Graphic Log</th>
<th>USCS</th>
<th>Water Level</th>
<th>Depth</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td>0</td>
<td>1</td>
<td>SSA</td>
<td>4</td>
<td>26.3</td>
<td></td>
<td></td>
<td>CL-CH</td>
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<td>148</td>
<td>-4</td>
<td>4</td>
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<td>1100</td>
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<td>1310</td>
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<td>CL</td>
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<td>6</td>
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<tr>
<td>140</td>
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<td>ST</td>
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<td>CL</td>
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<td></td>
</tr>
</tbody>
</table>

**B-HORIZON LOESS**

Gray-brown lean clay, very moist

**LOESS**

Brown-gray after 12'

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.*

---

**ALLENDER BUTZKE ENGINEERS, INC.**  
Geotechnical | Environmental | Construction Q.C.
**BOERING LOG NO. 33**

**EASTING:** 1595199  **NORTHING:** 578657  **Project No:** 191411A

**Project:** Western Ingersoll Sewer Separation
**Grand Ave to Center St & 34th to 40th St**
**Des Moines, Iowa**

**Client:** City of Des Moines - Dept. of
**602 Robert. D. Ray Drive**
**Des Moines, IA 50309**

**Surface Elevation:** 158.1'  **Datum:** City of Des Moines

**Date Drilled:** 5/25/2021  **Drilling Depth, ft.:** 15  **Drilling Method:** 4" CFA

### Material Description

**HMA (5") UNDERLAIN BY CRUSHED ROCK AND CINDERS WITH FINES (13")**

Brown-gray sandy lean clay, trace gravel, moist

**WISCONSINAN GLACIAL TILL**

Brown lean clay, very moist

**LOESS**

End of Boring

---

*The stratification lines represent the approximate boundary lines between material types. In-situ, the transition may be gradual.*

---

**ALLENDEAR BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
<table>
<thead>
<tr>
<th>Elevation (ft)</th>
<th>Depth (ft)</th>
<th>Sample No.</th>
<th>Type</th>
<th>SPT Tps</th>
<th>Moisture Content (%)</th>
<th>Dry Density (pcf)</th>
<th>Unconfined Compressive Strength (psf)</th>
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</thead>
<tbody>
<tr>
<td>0</td>
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</table>

**Material Description**

- **HMA (3"+)**
  - Dark brown and gray-brown mixed sandy lean clay, trace gravel, moist
  - **FILL**
  - Dark brown lean clay with sand, moist
  - **WISCONSINAN GLACIAL TILL**
    - Dark brown-gray after 6'
    - Brown-gray lean to fat clay, moist
    - **B-HORIZON LOESS**
    - Gray-brown lean clay, very moist
    - **LOESS**
    - End of Boring

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.*

---

**Water Level Observation**

- Time: at completion ______ hrs. _______ days
- Depth to water: ______ ft. ______ ft. ______ ft. _______ ft.

---

**ALLENDER BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
### Material Description

- **HMA (3") UNDERLAIN BY SAND (9")**: Brown-gray and very dark brown sandy lean clay, trace gravel and concrete fragments, moist to very moist.

- **FILL**: Brown lean to fat clay with sand, trace gravel, moist.

- **WISCONSINAN GLACIAL TILL**: Brown-gray lean clay with sand after 6'

- **LOESS**: Gray after 18'

**End of Boring**

---

*The stratification lines represent the approximate boundary lines between material types; in-situ, the transition may be gradual.*

---

**ALLENDEER BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
### Boring Log No. 29

**Project:** Western Ingersoll Sewer Separation  
Grand Ave to Center St & 34th to 40th St  
Des Moines, Iowa

**Client:** City of Des Moines - Dept. of  
602 Robert D. Ray Drive  
Des Moines, IA 50309

**Surface Elevation:** 167.8'  
**Datum:** City of Des Moines

**Date Drilled:** 5/24/2021  
**Drilling Method:** 4" CFA  
**Drilling Depth, ft.:** 15  
**Page:** 1 of 1

<table>
<thead>
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<th>Elevation (ft)</th>
<th>Depth (ft)</th>
<th>Sample No.</th>
<th>Type</th>
<th>SPT Bpf</th>
<th>Moisture Content (%)</th>
<th>Dry Density (pcf)</th>
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</tbody>
</table>

**Material Description:***

- HMA (6") UNDERLAIN BY SAND WITH GRAVEL (12")
- Brown-gray clay shale, moist FILL

- Brown-gray sandy lean clay, trace gravel, moist

**Wisconsinan Glacial Till**

**End of Boring**

**Water Level Observation**

- Time: at completion  
  **hrs.**  
  **days**

**Depth to water:** **Dry** ft. **½ ft. **¼ ft. **½ ft. **¾ ft.

---

*The stratification lines represent the approximate boundary lines between material types; in-situ, the transition may be gradual.*

---

**ALLENDER BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
**BORING LOG NO. 30**

**EASTING:** 1594754  **NORTHING:** 577316  **Project No:** 191411A

**Project:** Western Ingersoll Sewer Separation  
**Grand Ave to Center St & 34th to 40th St**  
**Des Moines, Iowa**

**Client:** City of Des Moines - Dept. of  
**602 Robert. D. Ray Drive**  
**Des Moines, IA 50309**

**Surface Elevation:** 177.2'  
**Datum:** City of Des Moines

**Date Drilled:** 5/24/2021  
**Drilling Depth, ft.:** 15  
**Drilling Method:** 4" CFA

---

### Material Description

- **HMA (6"±) UNDERLAIN BY BRICK (8"±) OVER SAND (10"±)**
  - Dark brown to brown sandy lean clay, trace gravel, moist
  - Brown-gray after 5'

- **WISCONSINAN GLACIAL TILL**
  - Brown-gray lean clay with sand, very moist after 10'

---

**End of Boring**

---

*The stratification lines represent the approximate boundary lines between material types. In-situ, the transition may be gradual.*

**Water Level Observation**

- **Time of Completion:** _____ hrs.  _____ days
- **Depth to water:** **Dry** ft.  _____ ft.  _____ ft.  _____ ft.

---

**ALLENDER BUTZKE ENGINEERS, INC.**

Geotechnical | Environmental | Construction Q.C.
**BORING LOG NO. 31**  
**EASTING: 1594136  NORTHING: 577322**  
**Project No.: 191411A**

**Project:** Western Ingersoll Sewer Separation  
**Grand Ave to Center St & 34th to 40th St**  
**Des Moines, Iowa**

**Client:** City of Des Moines - Dept. of  
**602 Robert, D. Ray Drive**  
**Des Moines, IA 50309**

**Surface Elevation:** 184.4'  
**Datum:** City of Des Moines  
**Date Drilled:** 5/24/2021  
**Drilling Depth, ft.:** 15  
**Page: 1 of 1**

### Material Description

- **HMA (4''±) UNDERLAIN BY BRICK (10''±) OVER SAND (9''±)**
  - Brown-gray sandy lean clay, trace gravel, very moist to moist
  - Brown sandy lean to fat clay, moist from 4.5' to 7'
  - Brown-gray sandy lean clay, trace gravel, moist after 7'
  - **WISCONSINAN GLACIAL TILL**
  - Brown-gray lean clay, very moist
  - **LOESS**
  - End of Boring

---

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.*

**Water Level Observation**

<table>
<thead>
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<th>Depth to water:</th>
<th>Dry ft.</th>
<th>Wet ft.</th>
<th>Water Level</th>
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<tr>
<td>Time: at completion</td>
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<td>days</td>
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**ALLENDER BUTZKE ENGINEERS, INC.**  
Geotechnical | Environmental | Construction Q.C.
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<th>Depth ft.</th>
<th>Sample No.</th>
<th>Type</th>
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<th>Moisture Content, %</th>
<th>Dry Density pcf</th>
<th>Unconfined Compressive Strength psi</th>
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</tr>
</tbody>
</table>

**Material Description**

HMA (4"±) UNDERLAIN BY PCC (4") AND BRICK (4"±) OVER SAND (6"±)

Gray-brown lean clay with sand, trace gravel, moist

LL = 36, PI = 22
WISCONSINAN GLACIAL TILL

Brown-gray lean clay, very moist
LOESS

End of Boring

171.9 ft.

*The stratification lines represent the approximate boundary lines between material types; in-situ, the transition may be gradual.*
NOTES
CONTRACT DOCUMENTS
AND
SPECIFICATIONS
FOR
WESTERN INGERSOLL RUN
SEWER SEPARATION PHASE 3

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.

Carla J. Schumacher, P.E.          Date
Des Moines Water Works
License Number: 18191
My license renewal date is: December 31, 2022
Pages or sheets covered by this seal: SPECIAL PROVISIONS FOR WATER MAIN
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.: Katie Vandal
kvandal@dmww.com

B. Preparation

Notify DMWW (515-283-8792) 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 survey 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 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.
   B. Section 02 64 00 – Valves and Hydrants.

1.03 REFERENCES
   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:

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8-inch</td>
<td>100</td>
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<tr>
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<tr>
<td>No. 200</td>
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</table>

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 all pipe sizes.

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

C. Mechanically compact bedding material in the immediate vicinity of the pipe to ensure uniform support of the pipe beneath the spring line.

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

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

F. 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:
      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.
Section 02 22 00

6. Excavating, Backfilling, and Compacting for Water Mains

Western Ingersoll Run Sewer Separation Phase 3

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 at their own expense.
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 **
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 from the Standard Specifications on file with IDNR dated October 10, 2014.

1.02 RELATED SECTIONS
   A. Section 02 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.
   B. Section 02 64 00 – Valves and Hydrants.
   C. Section 02 67 40 – Pressure Testing Water Mains.
   D. Section 02 67 50 – Disinfection of Water Distribution Systems.

1.03 REFERENCES
   A. Iowa Wastewater Facilities Design Standards.

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 sewers:
      1. Provide a horizontal separation distance of at least 10 feet between water mains and gravity sewer mains, unless both of the following conditions can be met:
         a. Bottom of water main is at least 18 inches above top of sewer.
         b. Water main is placed in a separate trench with a minimum 3-foot horizontal separation.
      2. When it is impossible to obtain the required 3-foot horizontal clearance and 18-inch vertical separation, the sewer must be replaced with water main quality materials having a minimum pressure rating of 150 psi and meeting requirements of Section 02 61 00. In no case shall linear separation be less than 2 feet.
B. Horizontal separation of water mains from sewer force mains:
   1. Provide a horizontal separation distance of at least 10 feet between water mains and sewer force mains, unless both of the following conditions can be met:
      a. Force main is constructed of water main quality materials having a minimum pressure rating of 150 psi and meeting requirements of Section 02 61 00.
      b. Water main is laid at least 4 linear feet from sewer force main.

C. Vertical separation of water mains from sanitary sewer crossovers:
   1. Provide a vertical separation of at least 18 inches from bottom of water main to top of sanitary sewer whenever possible where water mains cross over sanitary sewers. If 18 inches cannot be met, provide a minimum vertical separation of 6 inches and place water main inside 20 feet of a larger diameter polyvinyl chloride water main casing pipe with no casing chocks centered on the sanitary sewer.
   2. Provide a vertical separation of at least 18 inches from bottom of sanitary sewer to top of water main in cases where water mains cross under the sanitary sewer. Place water main inside 20 feet of a larger diameter polyvinyl chloride water main casing pipe with no casing chocks centered on the sanitary sewer.
   3. Adequately support both water and sanitary sewer pipes and provide watertight joints.

D. Vertical separation of water mains from storm sewer crossovers:
   1. Provide a vertical separation of at least 18 inches from bottom of water main to top of storm sewer whenever possible where water mains cross over storm sewers. If 18 inches cannot be met, provide a minimum vertical separation of 6 inches and construct with one of the following methods:
      a. Verify storm sewer has gasketed joints.
      b. Install water main of 20 feet of ductile iron pipe material with nitrile gaskets.
      c. Encase storm sewer.
      d. Encase water main.
   2. Provide a minimum vertical separation of at least 18 inches from bottom of storm sewer to top of water main in cases where water mains cross under storm sewer mains and construct with one of the following methods:
      a. Verify storm sewer has gasketed joints.
      b. Install water main of 20 feet of ductile iron pipe material with nitrile gaskets.
      c. Encase storm sewer.
      d. Encase water main.
   3. Adequately support both water and storm sewer pipes and provide watertight joints.

E. 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.

F. 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. Water crossings, in areas where no evidence of erosion exists, are excluded from these requirements.

4. 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 **
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
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.
      b. Nuts and bolts: stainless steel in accordance with ASTM A230, Type 304.

D. Pressure Rating:
   
<table>
<thead>
<tr>
<th>Size (inches)</th>
<th>Pressure Rating (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 – 24</td>
<td>350</td>
</tr>
<tr>
<td>30 – 48</td>
<td>250</td>
</tr>
<tr>
<td>54 – 64</td>
<td>150</td>
</tr>
</tbody>
</table>

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.
   2. Coating: Cor-Blue fluorocarbon resin.
   4. Approved Manufacturers:
      a. Birmingham Fastener Manufacturing Fluorocarbon Coated T-Head Bolt.
      b. Or approved equal.

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:
      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.


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:
   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:
      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:

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Tubing Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 inches</td>
<td>14 inches</td>
</tr>
<tr>
<td>4 inches</td>
<td>14 inches</td>
</tr>
<tr>
<td>6 inches</td>
<td>16 inches</td>
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<tr>
<td>8 inches</td>
<td>20 inches</td>
</tr>
<tr>
<td>12 inches</td>
<td>27 inches</td>
</tr>
<tr>
<td>16 inches</td>
<td>34 inches</td>
</tr>
<tr>
<td>20 inches</td>
<td>41 inches</td>
</tr>
<tr>
<td>24 inches</td>
<td>54 inches</td>
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<tr>
<td>30 inches</td>
<td>67 inches</td>
</tr>
<tr>
<td>36 inches</td>
<td>81 inches</td>
</tr>
</tbody>
</table>

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.

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. 14 AWG high-strength copper clad steel (HS-CCS) manufactured by Copperhead Industries, or pre-approved equal.
      (1) Insulation: 30 mil, high-density, high molecular weight polyethylene (HDPE) and rated for direct burial at 30 volts.
      (2) HW-CCS Conductor: 21 percent conductivity for locating purposes with a minimum 282 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.
   2. Directional Drilling/Boring:
      a. No. 12 AWG extra-high-strength copper clad steel conductor (EHS-CCS) manufactured by Copperhead Industries for directional drilling and boring applications, or pre-approved equal.
         (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:
   1. 1-pound magnesium drive-in anode, 1.315-inch diameter by 18.5-inch length, manufactured by Copperhead Industries, or pre-approved equal.
   2. Cap installed on one end of anode ground rod to be HDPE.
   3. Provide a beveled pointed end on anode ground rod opposite of cap to aid in hammering into ground.
   4. Wire from cap for anode ground rod to tracer wire connection:
      a. No. 14 AWG copper clad steel (HS-CCS) manufactured by Copperhead Industries, or approved equal.
      b. Insulation: 30 mil, high-density, high molecular weight polyethylene (HDPE) and rated for direct burial at 30 volts.
      c. Length: 10 feet.
      (1) HS-CCS Conductor: 21 percent conductivity for locating purposes with a minimum 250 pounds break load.
      d. Color: Red.

C. Wire Splice Connector:
   1. Tracer wire splices shall only be used to connect the anode ground rod to the tracer wire.
   2. Tracer wire splices will not be allowed between anode ground rods and connection terminal.
   3. Splices used for tracer wire repair must be approved by Engineer.
      b. Or approved equal.

D. 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 adjacent to connections to existing piping and at each fire hydrant.

D. Terminate tracer wire in tracer wire connection next to each fire hydrant or other locations directed by Engineer.

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 **
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
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.
   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:

<table>
<thead>
<tr>
<th>Valve Size (inches)</th>
<th>Gear Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>3 to 1</td>
</tr>
<tr>
<td>24</td>
<td>3 to 1</td>
</tr>
<tr>
<td>30</td>
<td>6 to 1</td>
</tr>
<tr>
<td>36</td>
<td>6 to 1</td>
</tr>
<tr>
<td>42</td>
<td>8 to 1</td>
</tr>
<tr>
<td>48</td>
<td>8 to 1</td>
</tr>
</tbody>
</table>

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:
   2. Gate: cast or ductile iron fully encapsulated with synthetic rubber.
   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.
   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.
   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.
      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:
   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.
   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:
   2. One-Lok by Sigma Series SLDE.
   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:

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<thead>
<tr>
<th>Extension Height (inches)</th>
<th>Weight (pounds)</th>
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<td>27-37</td>
<td>71</td>
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<td>39-50</td>
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<td>36-52</td>
<td>93</td>
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<tr>
<td>39-60</td>
<td>100</td>
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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.
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 **
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 61 00 – Ductile Iron and Polyvinyl Chloride Pipe for Water Mains.
   B. Section 02 64 00 – Valves and Hydrants

1.03 REFERENCES

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 \((L\sqrt{D}) / 148,000\).
   \(L\) = 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 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) 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 **
PART 1    GENERAL

1.01    SUMMARY OF WORK

A. Provide labor, equipment, and materials necessary to install cathodic protection for 16-inch and smaller diameter ductile iron pipe with field-applied polyethylene encasement.

1.02    RELATED SECTIONS

A. Section 02 22 00 – Excavating, Backfilling, and Compacting for Water Mains.
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 Society for Testing and Materials (ASTM) – Applicable testing methods and materials.
B. National Electrical Code (NEC).
C. National Electrical Manufacturers Association (NEMA) – Standards and Specifications.
D. Underwriters Laboratories, Inc. (UL) – Standards for Safety.

1.04    SUBMITTALS

A. Product Data
   1. Submit manufacturer’s specifications, recommendations, and installation instructions for each of the following products specified in this Section:
      a. Electrical Continuity Bond Cables.
      b. Corrosion Monitoring Test Stations.
      c. Electrical Isolation Devices.
      d. Galvanic Anodes and Accessories.
      e. Wire, Cable, and Splices.
      f. Exothermic Welds and Repair Coatings.

1.05    MEASUREMENT AND PAYMENT

A. Install bonding cables across all pipe joints. Include costs for material, equipment, and labor in Pipe, Valve, or Fitting Installation.
B. Install corrosion monitoring test stations with test wires as shown on Plans. Include costs for material, equipment, and labor in Cathodic Protection Test Station bid item.
C. Install isolation pipe couplings as shown on Plans. Include costs for materials, equipment, and labor in Pipe Isolation Coupling bid item.
D. Install electric isolators in all corporation stops. Include cost for isolators in Water Service price.
E. Install anodes at locations determined by Engineer according to spacing by pipe size shown in Cathodic Protection Detail Sheet of Specifications. Include costs for materials, equipment, and labor in 32-pound Magnesium Anode bid item.
PART 2  PRODUCTS

2.01  WARRANTY ON CONTRACTOR-PROVIDED MATERIALS

A. All Contractor-provided materials shall be guaranteed for a period of 2 years.

B. The 2-year period commences at the time of final installation of all components by Contractor and after system has been tested and properly adjusted for operation by Owner’s Corrosion Engineer.

2.02  ELECTRICAL CONTINUITY BOND CABLES

A. Install factory-prefabricated high molecular weight polyethylene insulated stranded copper continuity bond cables across all pipe joints of mechanically coupled pipe. Insulation shall conform to ASTM D1248 – Specification for Plastic Molding and Extrusion Materials, Type 1, Class C, Grade 5.

   1. Size pipe joint continuity bond cables as follows:
      a. Wire gauge: No. 4.
      b. Number of strands: 7.
      c. Outer jacket: 0.110-inch thickness.
      d. Length: 18-inch (minimum.).
      e. Number of bonds: one (1) across each pipe joint.

2.03  CORROSION MONITORING TEST STATIONS

A. Monitoring stations shall be as follows:

   1. Tube of the test station of Acrylonitrile Butadiene Styrene.
   2. Test station minimum of 24 inches in height and 6-1/8 inches in diameter.
   3. Cast iron collar and lid.
   4. Stainless steel lid with hold-down bolt with stainless steel nut.
   5. Minimum weight of 22.0 pounds.
   7. A terminal board equipped with terminal posts to permit ready access and testing constructed as follows:
      a. Terminal Board: polycarbonate plastic.
      b. Binding/Terminal Posts: nickel-plated marine brass (5 minimum.).
      c. Two shunts between posts.
      d. Terminal Board shall sit in the top of test station.
   8. Prepackaged Cu-CuSO4 Reference Electrodes
      a. Description: Cu-CuSO4 electrodes shall be used for soil environments to provide a stable electrical benchmark from which to measure the cathodic protection system’s effectiveness. Construct electrodes as follows:
         (1) Element: copper rod encapsulated in a proprietary backfill electrolyte containing high purity copper sulfate crystals and a chloride ion trap to prevent contamination of the electrolyte.
         (2) Service life of reference electrode no less than 20 years.
         (3) Lead Wire: No. 1 RH-RHW (Yellow) stranded copper wire. Lead wire sufficiently long to reach its termination point without splicing.
         (4) Approved manufacturers:
            (a) Borin Manufacturing, Inc., Model SRE-007-CUY.
            (b) GMC Electrical, Inc., Model CU-1-UGPC.

B. Subject to meeting the requirements of this Section, acceptable manufacturer’s products that may be incorporated into Work include the following, or an approved equal:

   1. Cathodic Protection Test Services #668 Roadway Test Station with Locking Cast Iron Lid and Collar with five-terminal board and shunt.
2.04 ELECTRICAL ISOLATION DEVICES

A. Construct electrically isolating pipe couplings as follows:
   1. Follower rings shall meet requirements of AISI C1012 carbon steel or ASME SA36 ductile iron.
   2. Middle ring shall meet requirements of ASTM A513, ASTM A635, or ASME SA675 GR60.
   3. Use stainless-steel bolts and nuts.
   4. Gaskets shall be Nitrile Grade 27 Buna-S compounded to resist aliphatic hydrocarbons within a temperature range of minus 20 degrees F to 180 degrees F.
   5. Use fusion-bonded epoxy coating.
   6. Subject to meeting the requirements of this Section, acceptable manufacturer’s products that may be incorporated into Work include the following, or an approved equal:
      b. Smith Blair, Style 416 Insulating Coupling.

B. Use electrically isolating corporation stops for all 2-inch and smaller service connections.
   1. Subject to meeting the requirements of this Section, acceptable manufacturer’s products that may be incorporated into Work include the following, or an approved equal:
      a. Ford Meter Box Company, Model Service Insulator Corporation Stops.
      b. Approved equal.

2.05 SACRIFICIAL ANODES AND ACCESSORIES

A. Magnesium Anodes
   1. Use magnesium anodes capable of delivering a minimum efficiency of 500 amp-hours per pound of magnesium and having the following metallurgical analysis and physical properties:
      a. Bare Ingot Weight: 32 pounds.
      b. Metallurgy:
         (1) Aluminum: 0.01 percent (maximum).
         (2) Manganese: 0.50 percent - 1.3 percent.
         (3) Copper: 0.02 percent (maximum).
         (4) Nickel: 0.001 percent (maximum).
         (5) Iron: 0.03 percent (maximum).
         (6) Other (each): 0.05 percent (maximum).
         (7) Other (total): 0.30 percent (maximum).
         (8) Magnesium: balance.

B. Packaged Magnesium Anode Backfill
   1. Magnesium anodes shall be packaged within a cotton sack in a special chemical backfill having the following proportions:
      a. Ground Hydrated Gypsum: 75 percent.
      b. Powdered Bentonite: 20 percent.
      c. Anhydrous Sodium Sulfate: 5 percent.
   2. Use backfill having a grain size such that 100 percent is capable of passing a 20-mesh screen and a 100-mesh screen retaining 50 percent.
      a. Backfill completely surrounding the anode ingot without voids.
      b. Package dimensions: 8-inch diameter by 28-inches long.
      c. Package weight: 76 pounds (nominal).

C. Anode Lead Wire
   1. 10-foot length of No. 12 AWG solid copper wire with Type TW (red) thermoplastic insulation is to be used as the standard lead wire for a magnesium anode.
   2. Lead Wire Connection to Anode Core
      a. Use magnesium anodes cast with a minimum 20-gauge galvanized steel core.
      b. Recess one end of the anode to expose core for silver-soldering the lead wire.
      c. Fill the silver-soldered lead wire connection and anode recess with an electrical potting compound before packaging.
2.06 TEST WIRES FOR CATHODIC PROTECTION SYSTEM MONITORING

A. Use oil- and gas-resistant insulated/jacketed stranded copper wire for structure connections as part of the system’s monitoring circuits. Insulation conforms to ASTM Standard UL-83 for Thermoplastic Insulated Wires.
   1. Size test wires as follows:
      a. Number of strands: 19.
      b. Primary insulation: 0.015-inch-thick thermoplastic.
      c. Outer jacket: 0.004-inch-thick nylon.

2.07 EXOTHERMIC WELDS AND REPAIR COATINGS

A. Exothermic Weld Connections:
   1. Exothermic weld all connections used within the DC cathodic protection system circuit. Use the proper size welders, metal charges, and wire sleeves in accordance with manufacturer’s recommendations.
   2. Subject to meeting the requirements of this Section, acceptable manufacturer’s products that may be incorporated into Work include the following, or an approved equal:
      b. Erico Products, Model Cadweld.

B. Repair Coatings:
   1. Apply an oil- and gas-resistant, cold-applied, coal tar mastic compound to exothermic weld connections.
   2. Subject to meeting the requirements of this Section, acceptable manufacturer’s products that may be incorporated into Work include the following, or an approved equal:
      b. Koppers Company, Bitumastic No. 50.
      c. Berry Plastics, Polyken 937/938.

PART 3 EXECUTION

3.01 REGULATORY REQUIREMENTS

A. Conform to applicable federal, state, and local regulations for safe installation of the system.

3.02 DESCRIPTION OF WORK

A. Refer to additional notes and Cathodic Protection Details included in Plans to install all cathodic protection components and equipment.

B. Examine areas and conditions under which cathodic protection materials are to be installed and notify Engineer in writing of conditions detrimental to proper and timely completion of Work. Do not proceed with Work until unsatisfactory conditions have been corrected.

3.03 INSTALLATION OF ELECTRICAL CONTINUITY BOND CABLES

A. General:
   1. Inspect each cable to ensure a continuous electrical conductor with no cuts or tears in the cable insulation.
   2. Do not install continuity bonding cables across points of connection to existing structures or across electrical isolation devices.
   3. Continuity bonding cables will not be required across joints with retainer glands.

B. Method:
   1. Attach cable to water main by exothermic welding process.
   2. Perform exothermic welding of bond cables in accordance with manufacturer’s instructions.
   3. Coat all exothermic welds with a cold-applied coal tar mastic as described in this Section.
C. Post-Installation Inspection:
   1. Inspect electrical continuity bond cables by visually examining each exothermic weld connection for strength and suitable coating prior to backfilling.
   2. If, in the opinion of the Engineer, the exothermic weld is deficient, Contractor shall remove and replace the weld at no expense to Owner.

D. Backfilling of Bond Cables:
   1. Perform backfilling that will prevent damage to bond cables and connections to the water main.
   2. If construction activity damages a bond cable, Contractor shall remove and replace the bond cable at no expense to Owner.

3.04 INSTALLATION OF CORROSION MONITORING TEST STATIONS

A. Test Wires:
   1. Provide test station lead wire that is continuous with no cuts or tears in the insulation covering the conductor.
   2. Attach test lead to water main by exothermic welding process.
   3. Route test wire into test station and attach wire nut or tape exposed end of copper conductor.
   4. Thoroughly backfill and compact area immediately surrounding test station to prevent settling or tipping.

B. Backfilling of Test Station:
   1. Protect test leads during backfilling operation to avoid damage to wire insulation and integrity of the conductor.
   2. If, in the opinion of the Engineer, the installation of the test station wires is deficient, Contractor shall remove and replace the test wires at no expense to Owner.
   3. Install corrosion-monitoring test stations at locations shown on Plans or as directed by Engineer.

3.05 INSTALLATION OF ELECTRICAL ISOLATION DEVICES

A. General: Follow manufacturer’s written instructions for specific device to be installed.

B. Acceptance:
   1. Immediately after an electrical isolation device has been installed, an electrical isolation test will be conducted by Engineer.
   2. If, in the opinion of the Engineer, the installation of the isolation device is deficient, Contractor shall remove and replace these components at Contractor’s expense.

3.06 INSTALLATION OF GALVANIC ANODES

A. General: Install the required number of anodes at locations shown on Plans or as directed by Engineer.

B. Method:
   1. Remove plastic or paper shipping bags from around prepackaged anodes prior to installation.
   2. Install in the manner and at the dimensions from the water main as shown on the Cathodic Protection Details on Plans. Make field modifications only with approval of Engineer.
   3. Handle galvanic anodes to avoid damaging anode materials and wire connections.
   4. Attach anode lead wire directly to pipe. Splices are not permitted within the lead wire of an anode except to repair damaged lead wires.
   5. Install prepackaged anodes with compacted backfill material, such that no voids exist between anode material and backfill.
   6. In very dry or coarse soils, pour 5 gallons of water over anode after backfilling and tamping have been completed to a point about 6 inches above anode. After the water has been absorbed by the earth, complete backfilling to ground surface level.
3.07 INSTALLATION OF WIRE, CABLE, AND SPLICES

A. Install underground wires, cables, and connections at a minimum 24 inches below final grade with a minimum separation of 6 inches from other underground structures.

3.08 INSTALLATION OF EXOTHERMIC WELDS AND CONNECTION DEVICES

A. Perform all exothermic welding in accordance with manufacturer’s recommendations for welding equipment, weld metal charge size, and applicability to the metallurgy of the structure.

B. Do not use exothermic weld equipment if graphite mold is wet. Follow manufacturer’s MSDS for storage and handling.
   1. Structure Surface Preparation
      a. Remove all dust, dirt, grease, oil, and other foreign matter by either power or hand-wire brushing to expose bright shiny metal free of coating, soil residue, or oxidation.
      b. Grind or file to remove sharp edges or burrs.
   2. Installation of Elastomeric Cover over Exothermic Welds
      a. After cooling, remove all slag from exothermic weld connection.
      b. Clean pipe surface that is to be covered by removing all moisture, dirt, grease, and other contaminants.
      c. Coat welded connection to completely cover all exposed copper or damaged pipe coating.

3.09 FIELD QUALITY CONTROL

A. Contractor’s Quality Control System
   1. Cathodic protection system components conform to applicable Plans and Specifications established by Contract Documents.
   2. Standards for materials, workmanship, construction, and functional performance are adhered to throughout the course of the Work.
   3. Contractor’s superintendent to monitor the Contractor’s quality control system.

** END OF SECTION **
This project will be constructed in accordance with the SUDAS Standard Specifications, 2022 Edition, which were adopted by the City of Des Moines on March 7, 2022, under Roll Call No. 22-0308, as amended by these City of Des Moines General Supplemental Specifications.

The SUDAS Standard Specifications, 2022 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.
1020, 1.09 PREPARATION OF THE PROPOSAL: Delete D. and replace with the following 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, 1.15 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 $50,000 or less. Change orders for work to cost more than $50,000 shall be approved by the City Council prior to the payment of the work provided for under the change order.

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: Steve 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) 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: Steve 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: 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 Contractor 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: Steve 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.
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: https://www.dsm.city/document_center/Engineering%20and%20Traffic%20Forms%20and%20Documents/ENG-Publications/MasterConstructionSafetyPacket.pdf?pdf=Master%20Construction%20Safety%20Packet&ti=158092134169 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: Steve 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 States 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 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.
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: 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 D.

D. If the Contractor fails to notify the Engineer or the Engineers representative prior to commencing work on various stages of work on the project, the work completed without notifying the City may not be compensated.

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.  
   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.

c. 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, 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, 3.03 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.

SECTION 6010 – STRUCTURES FOR SANITARY AND STORM SEWERS

6010, PARTS 1, 2, 3, and Figures: Unless specifically noted as precast construction on the construction drawings, 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.

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), D. Casting Types: 2. - Intakes: Delete b. and replace it with the following b.

b. 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. If 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 new F. following:

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, Add new N. following:

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 $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.

7010, 3.01 EQUIPMENT, A. Batching and Mixing Equipment, 2. Batching, Add new d. following:

d. Volumetric batching for Portland Cement Concrete will not be allowed unless authorized by the Engineer.

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, 3.07 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, 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 – HOT MIX ASPHALT PAVEMENT

7020, 3.01 HMA PAVEMENT, Add the following new H.:

H. The paver shall be capable of paving a minimum continuous width of twenty (20) foot wide strip without seam. Pavers in tandem will be acceptable; however, an adequate number of personnel shall be available to operate both pavers simultaneously.

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 – HOT MIX ASPHALT OVERLAYS

7020, 3.01 HMA PAVEMENT, Add the following new C.:

C. The paver shall be capable of paving a minimum continuous width of twenty (20) foot wide strip without seam. Pavers in tandem will be acceptable; however, an adequate number of personnel shall be available to operate both 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:

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 Hot Mix Asphalt 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, 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”. In addition, install a ½” expansion joint in the sidewalk at the extension of both edges of the driveway. Delete 7 and replace with the following 7; “Install a ½” expansion 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”. In addition, install a ½” expansion joint in the sidewalk at the extension of both edges of the driveway.

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.”.

SECTION 8030 – TEMPORARY TRAFFIC CONTROL

8030, Add new 3.04.A – Traffic Control Deficiency Deduction

A. Traffic Control Deficiency Deduction. 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, or non-compliance with the traffic control plan. A traffic control deficiency may also be 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.

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, 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.

C. Submit all SWPPP revisions to the Engineer for review and comment.

SECTION 9080 – CONCRETE STEPS AND HANDRAIL

9080, 2.01 – MATERIALS, B. Reinforcing Steel: Add the following sentence at the end: “All reinforcement shall be epoxy coated.”
LID SHALL BE USED FOR TYPE E, TYPE F, AND TYPE G APPLICATIONS AS REFERENCED BY SUDAS FIGURE 6010.602.

IT IS IN OUR HANDS
PROTECT OUR WATER

RAISED LETTERS FLUSH WITH TOP SURFACE

LETTERED "USA" OR "MADE IN USA"

PICKHOLES

MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 358
FINISH: NO PAINT

STORM SEWER LID FOR THE CITY OF DES MOINES, IOWA
SUPPLEMENTAL SPECIFICATION
FOR
TRAFFIC SIGNAGE
Effective Date: September 20, 2021

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.

**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 sheething 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 sheething with a seven year performance warranty.

2. Construction signs shall be made of ASTM D4956 Type IV (3M High Intensity Prismatic or equal) reflective sheething 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.


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 1/2 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 1/2 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. ½ inch square, 14 gauge galvanized steel, perforated post.
2. 2 inch square, 12 gauge galvanized steel, perforated breakaway anchor – 36 inch long.
3. ¾ 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-Roe 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. 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

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Colors:  
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Background: Green, 3M ElectroCut Film  
Background (Alternate): Blue or other specified, 3M ElectroCut Film

Named Street Name Sign with Border

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Background (Alternate): Blue or other specified, 3M ElectroCut Film

Supplemental Specifications for Traffic Signage  
Page 7 of 11
8 INCH STREET NAME SIGN DETAILS

Named Street Name Sign without Border and Descending Stroke

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- 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

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- Background: Green, 3M ElectroCut Film
- Background (Alternate): Blue or other specified, 3M ElectroCut Film

Overhead Street Name Sign with Block Address

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Varies in 6" Increments:

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Supplemental Specifications for Traffic Signage
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 Stanards 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” (±2 inches) or height of 48” (±2 inches) as specified in the bid item.
2. Remain flexible down to 0°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 plate 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.
**TYPICAL TREE PROTECTION FENCING - WORK ZONE AREA**

**NOTE 1:** SPACING AS REQUIRED TO PREVENT SAGGING, 8’ MAXIMUM

**INSTALL SIGNS AS FOLLOWS:**

FOR INDIVIDUAL TREE PROTECTION LOCATIONS:
INSTALL AT LEAST TWO SIGNS AT EACH LOCATION AND AT A MAXIMUM SPACING OF 18’ 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.

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.

**SIGN DETAIL**

MIN. SIGN DIMENSIONS:
LAMINATED CARDBOARD - 11” x 7”
METAL - 12” x 18”

**KEEP OUT TREE PROTECTION ZONE**
UP TO $600 PENALTY

**WORK AREA**

**TREE TRUNK**

**WORK ZONE LIMIT**

**TREE DRIP LINE**

**BLACK LETTERS ON ORANGE BACKGROUND**
TYPICAL TREE PROTECTION FENCING - BORDER AREA

FIGURE TP-2

Supplemental Specification for Tree Protection  Page 7 of 7
SUPPLEMENTAL SPECIFICATION
FOR
WATER SERVICES
Effective Date: April 1, 2014

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.

INDEX

ITEM NO. DESCRIPTION
1 Description
2 Materials
3 Construction
4 Method of Measurement
5 Basis of Payment

FIGURES
WS-1 Stop Box Relocation
WS-2 Lower Water Service
WS-3 Minimum Clearance Between Water Service and Structure
WS-4 Relocate Water Service in Conflict with New Sewer
WS-5 Adjusting Stop Box to New Grade

1. DESCRIPTION

This work shall consist of checking the depth, lowering, relocating and replacing water services and related items such as stop boxes, valves and taps.

2. MATERIALS

All materials used shall meet the requirements of the City of Des Moines plumbing code and the Des Moines Water Works Rules and Regulations.

3. CONSTRUCTION

A. Permits, Licenses, and Inspections.

1. All work shall comply with the requirements of the City of Des Moines Plumbing Code and the Des Moines Water Works Rules and Regulations. The Contractor shall obtain all permits, pay all fees, and schedule all plumbing inspections as required by the City of Des Moines Permit and Development Office. All work shall be done by a plumber licensed in the City of Des Moines.

2. Prior to starting any work on a project (preconstruction) and after all construction is complete (post construction) the Engineer shall arrange with Des Moines Water Works for an inspection of all water
service stop boxes within the project limits. The Contractor will be required to attend both inspections and assist with exposing the stop boxes. The preconstruction inspection will document defects to existing stop boxes. The post construction inspection will verify that the stop boxes have been installed/adjusted/protected to the requirements of this specification.

B. Water Service Tap:

1. A new water service tap is required if the existing tap is either 1/2" or 3/4" and not insulated.

2. Excavate and prepare the site in accordance with Des Moines Water Works Rules and Regulations.

3. Schedule Des Moines Water Works to install the service tap, and pay all Des Moines Water Works fees for the installation.

4. Backfill and compact the excavation site in accordance with Section 3.L.

C. Relocate Water Service Stop Box:

1. Relocate stop box, as shown in Figure WS-1, from its existing location to the new location shown on the plans or as designated by the Engineer.

2. When the existing stop box is not as indicated on the plans, the relocation shall be verified by the Engineer before proceeding with the work.

D. Check Depth of Water Service:

1. Excavate water service, measure and assure that existing water service is a minimum of 60 inches below the finished grade and not in conflict with proposed sewers, walls, and other structures.

2. If the depth of the service is not adequate, the service shall be lowered in accordance with the plans, and this specification.

E. Lower Water Service:

1. Lower existing water service that meets plumbing code standards to provide a minimum of 60 inches of earth cover and to provide minimum clearances at proposed sewers, walls, and structures as shown in Figures WS-2, WS-3, and WS-4.

2. Replace stop box and pipe and fittings if required.

F. Lower Water Service with New Copper:

1. Replace services that do not meet plumbing code standards with new 1-inch copper tubing from the water main to and including the
stop box. If the work area extends beyond the stop box, replace service to the limits of the work area.

2. Lower to provide a minimum of 60 inches earth cover and to provide minimum clearances at proposed sewers, walls, and structures as shown in Figures WS-2, WS-3 and WS-4.

G. New Water Service:

1. At locations where plumbing code standards require that the existing water service must be reconstructed in conjunction with relocating water services or relocating stop boxes, and in locations where a new water main is installed, a new water service shall be constructed from the water main to and including the stop box.

2. The new service shall be constructed to provide a minimum of 60 inches of earth cover and to provide minimum clearances at proposed sewers, walls, and structures as shown in Figures WS-2, WS-3, and WS-4.

3. Utilize the existing corporation tap on the water main if allowed (see water service tap) and provide all new materials required.

H. Relocate Water Service:

1. Relocate the existing water service that meets plumbing code standards when there is conflict with sewer construction as shown in Figure WS-4.

2. Relocate Stop Box if required.

I. Disconnect Water Service:

1. Disconnect abandoned water service or water service stubs.

2. Abandon in accordance with the requirements of the City of Des Moines Plumbing Code and Des Moines Water Works Rules and Regulations. The water services shall be cut at the corporation stop and the stop closed. The stop box consisting of the stem and riser shall be completely removed.

J. Adjust Stop Box to New Grade:

1. Adjust all stop boxes within the project limits to finish grade as per Figure WS-5.

2. Stop box caps that are located in a new PCC sidewalk or driveway shall be protected to prevent adhesion of the stop box cap to the new PCC sidewalk or driveway. A ½ inch thick, flexible, polyethylene, closed cell expansion joint material (zip strip or approved equal) shall be installed under the stop box cap to prevent adhesion to the bottom of the cap. The top of the stop box cap shall also be protected to prevent concrete adhesion. A permanent or temporary sleeve shall be placed on or around the stop box cap to prevent adhesion to the side of the stop box cap. After the new PCC
sidewalk or driveway has been placed, the contractor shall remove any temporary sleeves.

K. Flushing and Testing:

1. Flush and test the service in accordance with requirements of the City of Des Moines Plumbing Code and Des Moines Water Works Rules and Regulations.

L. Backfilling:

1. Place backfill in the trench immediately after water service work has been completed and inspected.

2. Within street right-of-way, compact each lift to at least 95% of maximum Standard Proctor Density, otherwise compact to at least 90%.

3. In areas 3 feet or more below pavement structure, place backfill in lifts no thicker than 8 inches.

4. In areas less than 3 feet below pavement structure, place backfill in lifts no thicker than 6 inches.

5. Terminate backfill at 8 inches below finish grade in areas to remain unpaved, and to subgrade elevation in areas to be paved. Place 8 inches of topsoil in unpaved areas.

6. Dispose of surplus and unsuitable materials.

7. Hydraulic compaction is not allowed.

4. METHOD OF MEASUREMENT

A. General

1. No separate measurement will be made for excavation, backfill and compaction, except as follows:


   b. Where excavated material is found to be unsuitable for backfill and cannot be made suitable in the opinion of Engineer, it shall be replaced with suitable backfill material. Suitable backfill replacement material located within the project limits will not be measured and paid separately. For replacement material furnished by the Contractor from outside the project limits, see Section 3010 of SUDAS Standard Specifications and General Supplemental Specifications.

B. Relocate Water Service Stop Box

1. The Engineer will count each separate Water Service Stop Box
relocated, except as described below.

2. Stop boxes relocated in conjunction with "New Water Service", "Lower Water Service," or "Lower Water Service with New Copper" will not be counted.

C. New Stop Box Housing and New Stop Box Rod.

1. The Engineer will count the number of each item completed as described in Figure WS-5.

D. Check Depth of Water Service

1. The Engineer will count the number of Check Depth Water Services as follows:

   a. Water services which are checked for depth and do not require lowering, relocation, replacement with a new service, or stop box relocation will be counted.

   b. Water services which are checked for depth and found to require lowering, relocation, replacement with a new service, or stop box relocation will not be counted.

   c. Water services checked for depth that are located in an individual trench will be counted individually.

   d. Multiple water services checked for depth that are located in one trench will be counted as one check depth (measurement will be made for first service checked and additional measurement will be not be made for subsequent services in the same trench).


1. The Engineer will count the number of each item completed for each size of water service as follows:

   a. Water services that are located in an individual trench will be counted individually.

   b. Multiple water services are located in one trench will be counted as 1 each for the first service and each additional water service located in the same trench shall be counted as ½ each.

5. BASIS OF PAYMENT

A. General

1. The cost of permits, fees, excavation, removal of unsuitable soil, backfill, testing and disinfection shall be considered incidental to this work.
B. Relocate Water Service Stop Box

1. Payment will be made at the unit bid price for each Relocate Water Service Stop Box completed. Bid price shall include all work and materials required to move the stop box from its existing location to its new location. The bid price shall assume the following:

   a. Existing ground key stop shall remain in place.

   b. New ground key stop with connections shall be installed.

   c. Where required, a new service box stem and rod shall be installed.

2. Stop boxes relocated in conjunction with “New Water Service”, “Lower Water Service,” or “Lower Water Service with New Copper” will be considered incidental to those items and not be counted for separate payment.

C. New Stop Box Housing and New Stop Box Rod

1. Payment will be made at the unit bid price for each item of work completed. Bid price shall include all work and materials required to complete the work.

D. Check Depth of Water Service

1. Payment will be made at the unit bid price for each Check Depth of Water Service completed. Bid price shall include all work and materials required to complete the work.

E. Lower Water Service, Lower Water Service with Copper, New Water Service

1. Payment will be made at the unit bid price for each item of work completed. Bid price shall include all work and materials required to complete the work. The bid price shall include a new stop box and any additional pipe and fittings required.

F. Relocate Water Service

1. Payment will be made at the unit bid price for Relocate Water Service completed. Bid price shall include all work and materials required to complete the work. The bid price shall include any additional pipe and fittings required.

G. Disconnect Water Service, Water Service Tap

1. Payment will be made at the unit bid price for each item completed. Bid price shall include all work and materials required to complete the specified work on the water service. Removal and replacement of the street pavement, sidewalks, and driveways are paid under separate bid items.
SUPPLEMENTAL SPECIFICATIONS FOR WATER SERVICES

NOTES
1. THE STOP BOX LOCATION SHALL MEET THE FOLLOWING REQUIREMENTS:
   INSTALL BETWEEN 1' AND 6' FROM THE RIGHT-OF-WAY LINE.
   INSTALL A MINIMUM OF 24" AWAY FROM ANY FENCE OR WALL.
   DO NOT INSTALL IN A DRIVEWAY, SIDEWALK, OR AN ALTERNATE LOCATION 
   UNLESS APPROVED BY THE ENGINEER.

<table>
<thead>
<tr>
<th>WATER SERVICE STATUS</th>
<th>CONTRACTOR'S RESPONSIBILITY</th>
<th>COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. STOP BOX DOES NOT REQUIRE RELOCATION.</td>
<td>ADJUST TO FINISH GRADE AS PER FIGURE WS-5.</td>
<td>SEE FIGURE WS-5</td>
</tr>
<tr>
<td>2. STOP BOX REQUIRES RELOCATION. SERVICE COMPLIES WITH THE PLUMBING CODE.</td>
<td>RELOCATE STOP BOX.</td>
<td>BID ITEM-&quot;RELOCATE STOP BOX&quot;</td>
</tr>
<tr>
<td>3. NEW STOP BOX REQUIRED IN CASE 2 ABOVE.</td>
<td>INSTALL NEW STOP BOX.</td>
<td>INCIDENTAL TO &quot;RELOCATE STOP BOX&quot;</td>
</tr>
<tr>
<td>4. STOP BOX REQUIRES RELOCATION BUT PLUMBING CODE STANDARDS WILL NOT ALLOW SIMPLE RELOCATION.</td>
<td>CONSTRUCT NEW WATER SERVICE AND INSTALL NEW STOP BOX AT SPECIFIED LOCATION.</td>
<td>BID ITEM - &quot;NEW WATER SERVICE&quot;</td>
</tr>
<tr>
<td>5. EXISTING TAP 1/2&quot; OR 3/4&quot; AND NOT INSULATED IN CASE 4 ABOVE.</td>
<td>PROVIDE NEW 1&quot; TAP</td>
<td>BID ITEM - &quot;WATER SERVICE TAP&quot;</td>
</tr>
</tbody>
</table>

01/03/12

REV. DATE BY

DATE: 05-25-00

STOP BOX RELOCATION

FIGURE: WS-1

Sheet 1 of 1
NOTE: WHEN WATER SERVICES ARE LOWERED, THEY SHALL BE LOWERED OR RELOCATED TO AVOID CONFLICT WITH PROPOSED SEWERS, WALLS AND OTHER STRUCTURES.

WATER SERVICE STATUS

1. CHECK DEPTH-SERVICE HAS MINIMUM 60" OF EARTH COVER TO FINISH GRADE.

2. CHECK DEPTH-SERVICE HAS LESS THAN 60" OF EARTH TO FINISH GRADE AND SERVICE COMPLIES WITH PLUMBING CODE.

3. CHECK DEPTH-SERVICE HAS LESS THAN 60" OF EARTH COVER TO FINISH GRADE BUT PLUMBING CODE STANDARDS WILL NOT ALLOW EXISTING PIPE TO BE LOWERED OR REUSED.

4. NEW STOP BOX REQUIRED IN CASE 2 OR 3 ABOVE

5. EXISTING TAP 1/2" OR 3/4" AND NOT INSULATED IN CASE 3 ABOVE.

CONTRACTOR'S RESPONSIBILITY

BACKFILL AND COMPACT INSPECTION EXCAVATION.

LOWER SERVICE.

LOWER SERVICE WITH NEW COPPER PIPE.

INSTALL NEW STOP BOX

PROVIDE NEW 1" TAP

COMPENSATION

BID ITEM: "CHECK DEPTH OF WATER SERVICE"

BID ITEM: "LOWER WATER SERVICE"

BID ITEM: "LOWER WATER SERVICE WITH NEW COPPER"

INCIDENTAL TO APPLICABLE BID ITEM IN CASE 2 OR 3

BID ITEM: "WATER SERVICE TAP"

Supplemental Specifications for Water Services
SUPPLEMENTAL SPECIFICATIONS FOR WATER SERVICES

SECTION

WATER SERVICE

60" MIN

60" MIN

WATER SERVICE

60" MIN

SECTION

24" MIN.

WATER SERVICE

60" MIN

PLAN VIEW

STRUCTURE

A

FINISH GRADE

60" MIN

30"

SECTION A-A

① IF SERVICE MUST BE LOCATED IN AREA OF PIPE, ALSO PROVIDE PIPE CLEARANCE (SEE FIGURE WS-4)

MINIMUM CLEARANCE BETWEEN WATER SERVICE AND STRUCTURE

FIGURE: WS-3

SHEET 1 OF 1

01/03/12

REV. DATE BY

05-25-00

DATE: 05-25-00

Supplemental Specifications for Water Services
SUPPLEMENTAL SPECIFICATIONS FOR WATER SERVICES

LIMITS OF NEW SERVICE

1. SERVICE LOCATED OUTSIDE OF BOTH THE ZONE OF CONFLICT & SPECIAL CONDITION ZONE & HAS MORE THAN 60" OF OF EARTH COVER TO FINISH GRADE.
   PROVIDE PROTECTION, IF DAMAGED REPAIR IN COMPLIANCE WITH THE PLUMBING CODE.
   INCIDENTAL TO OTHER WORK

2. SERVICE LOCATED IN ZONE OF CONFLICT, COMPLIES WITH THE PLUMBING CODE AND IS NOT SPECIFIED TO BE LOWERED.
   RELOCATE BELOW SEWER AS DETAILED ABOVE.
   BID ITEM—"RELOCATION OF WATER SERVICE"

3. SERVICE LOCATED IN ZONE OF CONFLICT BUT PLUMBING CODE STANDARDS WILL NOT ALLOW SIMPLE RELOCATION THEREOF.
   CONSTRUCT NEW WATER SERVICE, PROVIDE MINIMUM CLEARANCE OF SEWER AS DETAILED ABOVE.
   BID ITEM—"NEW WATER SERVICE"

4. SERVICE IS LOCATED IN SPECIAL CONDITION ZONE AND HAS MORE THAN 60" OF OF EARTH COVER TO FINISH GRADE.
   INSULATE SERVICE WITHIN THE TRENCH LIMITS
   INCIDENTAL TO OTHER WORK

5. SERVICE IS LOCATED ABOVE THE ZONE OF CONFLICT AND HAS LESS THAN 60" OF OF EARTH COVER TO FINISH GRADE.
   RELOCATE OR RECONSTRUCT AS SPECIFIED IN 2 AND 3 ABOVE WHICHEVER CASE APPLIES.
   AS IN 2 OR 3 ABOVE WHICHEVER APPLIES.

6. SERVICE REQUIRE TO BE LOWERED AS WELL AS RELOCATED
   LOWER SERVICE PROVIDE MINIMUM CLEARANCE TO SEWER PIPE AS ABOVE.
   BID ITEM—"LOWER WATER SERVICE" OR "LOWER WATER SERVICE WITH NEW COPPER" WHICHEVER APPLIES.

5. EXISTING TAP 1/2 " OR 3/4" AND NOT INSULATED IN CASE 3 ABOVE.
   PROVIDE NEW 1" TAP
   BID ITEM—"WATER SERVICE TAP"

ZONE OF CONFLICT DEFINED - AREA FROM 6" BELOW THE BOTTOM OF THE SPECIFIED BEDDING TO 12" ABOVE THE TOP OF PIPE.

WATER SERVICE STATUS

CONTRACTOR'S RESPONSIBILITY

COMpensation

01/03/12

REV.

DATE

BY

RELOCATE WATER SERVICE IN CONFLICT WITH NEW SEWER

DATE: 05-25-00

FIGURE: WS-4

Supplemental Specifications for Water Services

Sheet 1 of 1

Page 10 of 11
Supplemental Specifications for Water Services

NORMAL INSTALLATION

STOP BOX ADJUSTED TO NEW GRADE

NOTES:

1. RAISING THE HOUSING IS ACCOMPLISHED BY REMOVING THE CAP, INSTALLING A PIPE COUPLING AND USING A PIPE NIPPLE (TBE) OF A PROPER LENGTH OR INSTALL CURB STOP BOX REPAIR COUPLING TO RAISE THE CAP TO THE NEW GRADE.

2. TO LOWER THE HOUSING IT MAY BE NECESSARY TO CUT AND RETHREAD THE HOUSING AT THE NEW GRADE OR INSTALL CURB STOP BOX REPAIR COUPLING AND REPLACE THE CAP. THE TOP OF THE ROD MUST BE A MINIMUM OF 12" BELOW THE TOP OF THE HOUSING.

STOP BOX STATUS

1. TOP OF EXISTING HOUSING MATCHES FINISHED GRADE. NO ADJUSTMENT REQUIRED.

2. EXISTING HOUSING NEEDS ADJUSTED TO FINISH GRADE. HOUSING IS IN SUITABLE CONDITION TO ADJUST.

3. EXISTING HOUSING NEEDS ADJUSTED TO INSTALL NEW HOUSING AND TO FINISH GRADE. HOUSING IS TOO DETERIORATED TO ADJUST.

4. TOP OF EXISTING ROD IS NOT WITHIN SPECIFIED DISTANCE TO FINISHED GRADE IN EITHER CASE 2 OR 3 ABOVE.

5. NEW STOP BOX IS INSTALLED AS PART OF OTHER PLUMBING WORK.

CONTRACTOR'S RESPONSIBILITY

PROVIDE PROTECTION, REPLACE OR REPAIR IF DAMAGED BY CONSTRUCTION.

INSTALL NEW HOUSING AND ADJUST HOUSING AND ROD TO THE REQUIREMENTS SHOWN IN THIS FIGURE.

COMPENSATION

INCIDENTAL TO OTHER WORK

BID ITEM: "NEW STOP BOX HOUSING"

BID ITEM: "NEW STOP BOX ROD"

INCIDENTAL TO INSTALLATION OF THE STOP BOX

REV. DATE BY ADJUSTING STOP BOX TO NEW GRADE

DATE: 02-92

FIGURE: WS-5

SHEET 1 OF 1