

Project Manual

for

West Hill Area Sanitary and Storm Sewer Separation Phase 6D

**City of Muscatine
Muscatine, Iowa**

**Final
March 2025**



Project Manual

for

West Hill Area Sanitary and Storm Sewer Separation Phase 6D

City of Muscatine Muscatine, 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.

Karmen K. Heim



(signature)

3/12/2025

(date)

Discipline: Civil Engineer, Iowa License No. P17381

License expires December 31, 2026.

Pages or sheets covered by this seal: As listed on Table of Contents



A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

WEST HILL AREA
SANITARY AND STORM SEWER SEPARATION
PHASE 6D

CITY OF MUSCATINE
MUSCATINE, IOWA

PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Resp. Charge	Document	Title	Page
KKH	00 11 13	Notice to Bidders	1 to 2
KKH	00 21 13	Instructions to Bidders	1 to 10
KKH	00 41 13	Bid Form	1 to 5
KKH	00 43 13	Bid Bond	1 to 2
KKH	00 43 22	Unit Price Schedule	1 to 4
KKH	00 43 24	Iowa Bidder Status Form	1 to 2
KKH	00 52 13	Contract between Owner and Contractor	1 to 6
KKH	00 63 13	Performance and Payment Bond	1 to 2
	1010 – 1090	SUDAS General Provisions and Covenants	1 to 74
KKH	00 75 00	Special Provisions	1 to 15

SRF Required Front-End Specifications

- Attachment 1 - Certification of Non-Segregated Facilities Form
- Attachment 2 - Statement in Advertisement for Bids on Debarment and Suspension/Certification Regarding Debarment and Suspension Form
- Attachment 3 - Disadvantaged Business Enterprise Certification Form
- Attachment 4 - DBE Program Subcontractor Performance Form
- Attachment 5 - DBE Program Subcontractor Utilization Form
- Attachment 6 - DBE Program Subcontractor Participation Form
- 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 Telecommunication and Video Surveillance Services or Equipment

Davis-Bacon Prevailing Wage Rates for Muscatine County
- Construction Types: Heavy and Highway

SPECIFICATIONS GROUP

GENERAL REQUIREMENTS SUBGROUP

Resp. Charge	Section	Title	Page
DIVISION 01 GENERAL REQUIREMENTS			
KKH	01 22 00	Unit Prices	1

Resp. Charge	Section	Title	Page
KKH	01 33 00	Submittal Procedures	1 to 6
		Submittal Transmittal Form	1
KKH	01 50 00	Temporary Facilities and Controls	1 to 6
KKH	01 57 14	SWPPP Owner – Certification	1
KKH	01 57 15	SWPPP – Contractor and Subcontractor Certification	1
KKH	01 57 16	SWPPP Training Log	1
KKH	01 57 17	Stormwater Construction Site Inspection Report	1 to 3
KKH	01 57 18	SWPPP Amendment Log	1
KKH	01 77 00	Closeout Procedures	1 to 4

2025 SUDAS STANDARD SPECIFICATIONS

The following SUDAS Standard Specifications and their requirements referenced are considered part of this project. All requirements of these sections are applicable unless otherwise noted in the contract documents. Sections are not included in the printed project manual.

DIVISION 1 GENERAL PROVISIONS AND COVENANTS

- 1010 Definitions
- 1020 Proposal Requirements and Conditions
- 1030 Approval for Award and Award of Contract
- 1040 Scope of Work
- 1050 Control of Work
- 1060 Control of Materials
- 1070 Legal Relations and Responsibility to the Public
- 1080 Prosecution and Progress
- 1090 Measurement and Payment

DIVISION 2 EARTHWORK

- 2010 Earthwork, Subgrade, and Subbase

DIVISION 3 TRENCH AND TRENCHLESS CONSTRUCTION

- 3010 Trench Excavation and Backfill
- 3020 Trenchless Construction (Boring, Jacking, and Tunneling)

DIVISION 4 SEWER AND DRAINS

- 4010 Sanitary Sewers
- 4020 Storm Sewers
- 4030 Pipe Culverts
- 4040 Subdrains and Footing Drain Collectors
- 4050 Pipe Rehabilitation
- 4060 Cleaning, Inspection, and Testing of Sewers

DIVISION 5 WATER MAIN AND APPURTENANCES

- 5010 Water Main and Appurtenances - Pipe and Fittings
- 5020 Valves, Fire Hydrants, and Appurtenances
- 5030 Testing and Disinfection

DIVISION 6 STRUCTURES FOR SANITARY AND STORM SEWERS

- 6010 Structures for Sanitary and Storm Sewers
- 6030 Cleaning, Inspection, and Testing of Structures

DIVISION 7 STREETS AND RELATED WORK

- 7010 Portland Cement Concrete Pavement
- 7020 Asphalt Pavement
- 7030 Sidewalks, Shared Use Paths, and Driveways
- 7040 Pavement Rehabilitation

DIVISION 8 TRAFFIC CONTROL
8020 Pavement Markings
8030 Temporary Traffic Control

DIVISION 9 SITE WORK AND LANDSCAPING
9010 Seeding
9040 Erosion and Sediment Control
9060 Chain Link Fence
9070 Landscaping Retaining Walls
9080 Concrete Steps, Handrails, and Safety Rail

DIVISION 11 MISCELLANEOUS
11,010 Construction Survey
11,020 Mobilization
11,030 Temporary Services During Construction
11,050 Concrete Washout

SUDAS Figures

SUDAS Figure No.	Figure Title
2010.102	DESIGNATIONS OF ROADWAY EARTHWORK ITEMS
3010.101	TRENCH BEDDING AND BACKFILL ZONES
3010.102	RIGID GRAVITY PIPE TRENCH BEDDING
3010.103	FLEXIBLE GRAVITY PIPE TRENCH BEDDING
3010.104	PRESSURE PIPE TRENCH BEDDING
4010.201	SANITARY SEWER SERVICE STUB
4010.203	SANITARY SEWER CLEANOUT
4030.222	CIRCULAR CONCRETE APRONS
4030.224	CONCRETE PIPE APRON GUARD
4040.231	SUBDRAINS
4040.233	SUBDRAIN OUTLETS
6010.301	CIRCULAR SANITARY SEWER MANHOLE
6010.303	SANITARY SEWER MANHOLE OVER EXISTING SEWER
6010.401	CIRCULAR STORM SEWER MANHOLE
6010.406	SHALLOW RECTANGULAR STORM SEWER MANHOLE
6010.501	SINGLE GRATE INTAKE
6010.502	CIRCULAR SINGLE GRATE INTAKE
6010.505	DOUBLE GRATE INTAKE
6010.507	SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX
6010.509	DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX
6010.512	CIRCULAR AREA INTAKE
7010.101	JOINTS
7010.102	PCC CURB DETAILS
7010.103	MANHOLE BOXOUTS IN PCC PAVEMENT
7010.901	PCC PAVEMENT JOINTING
7010.904	TYPICAL JOINTING LAYOUT
7030.101	CONCRETE DRIVEWAY, TYPE A
7030.103	DRIVEWAY GRADING
7030.104	RIGHT-OF-WAY GRADING

SUDAS Figure No.	Figure Title
7030.201	CLASSES OF SIDEWALKS
7030.202	CURB DETAILS FOR CLASS A SIDEWALK
7030.204	GENERAL FEATURES OF AN ACCESSIBLE SIDEWALK
7030.205	GENERAL SIDEWALK AND CURB RAMP DETAILS
7030.206	CURB RAMPS OUTSIDE OF INTERSECTION RADIUS
7030.207	CURB RAMP FOR CLASS B OR C SIDEWALK
7030.208	ALTERNATIVE CURB RAMP FOR CLASS B OR C SIDEWALK
7030.209	CURB RAMPS FOR CLASS A SIDEWALK
7030.210	DETECTABLE WARNING PLACEMENT
7040.101	FULL DEPTH PCC PATCHES LESS THAN OR EQUAL TO 15' LONG
7040.102	FULL DEPTH PCC PATCHES GREATER THAN 15' LONG
8030.101	TEMPORARY TRAFFIC CONTROL GENERAL INFORMATION
8030.111	LANE CLOSEURE AT AN INTERSECTION
8030.116	STREET OR ROAD CLOSURE
8030.117	SIDEWALK DETOUR
8030.119	CLOSURE OF MARKED OR UNMARKED CROSSWALK
9040.102	FILTER BERM AND FILTER SOCK
9040.103	ROLLED EROSION CONTROL PRODUCT (RECP) INSTALLATION ON SLOPES
9040.105	WATTLE
9040.111	RIP RAP APRON FOR PIPE OUTLET INTO CHANNEL
9040.119	SILT FENCE
9040.120	STABILIZED CONSTRUCTION EXIT
9080.101	TYPE A CONCRETE STEPS WITH HANDRAIL
9080.102	TYPE B CONCRETE STEPS WITH HANDRAIL
11030.101	TEMPORARY MAILBOXES
11040.101	TEMPORARY GRANULAR SIDEWALK AND TEMPORARY RESIDENTIAL ACCESS
11040.102	TEMPORARY PEDESTRIAN CHANNELIZING DEVICE

Muscatine Power and Water Standard Specifications

Muscatine Power and Water (MPW) has adopted the 2023 Standard Specifications for Water Distribution System Improvements approved by the Board of Water, Electric and Communications Trustees of the City of Muscatine, Iowa. The specifications are used on MPW improvement projects. The Specifications are incorporated herein by reference and are included in this project manual.

Notice is hereby given that the City of Muscatine, will receive sealed Bids submitted only to the City's electronic bid submission website, IonWave (<https://muscatineiowa.ionwave.net>) and filed before April 8, 2025 at 2:00 pm, local time, for West Hill Area Sanitary and Storm Sewer Separation – Phase 6D, at which time Bids will be opened and tabulated. Bids will be acted upon at the regular council meeting on April 17, 2025, or at such later time and place as may then be fixed. Regular council meetings are held on the first and third Thursdays of the month. All attachments including the bid security shall be uploaded in PDF format to the “Response Attachments” section of the project's page found on the City of Muscatine's IonWave website. Attachments may be completed electronically or by hand and scanned into PDF format.

General summary of Work to be performed: Installation of sanitary and storm sewer to improve and separate existing West Hill combined sewer system. Work will be constructed under a single unit price Contract. The work is divided into multiple stages to be completed over two years 2025 and 2026, according to the Contract Times defined in the Contract.

Phase 6D work includes general construction of approximately 3,920' of new 8", 12", and 15" sanitary sewer on Hagerman Drive, Logan Street, and approximately 1,000' of cured in place lining of sewers on Devitt Avenue and Eisenhower Street. Storm sewer includes approximately 3,450' of new storm sewer, inlet piping and inlets which includes replacing a portion of the UWBS. Approximately 15' of trenchless sewer construction and 100' of water main relocation is included.

All sub-phases include the following work: manholes, sanitary service connections, new inlets, inlet piping, water services, full-width pavement removal and replacement, sidewalk construction, seeding, and other related work. Please note that granular pipe backfill material shall be used under the street and is included in with the pipe price along with trench spoil material removal to a contractor selected location.

Work shall be in accordance with the Bidding Documents, including the Project Manual and Drawings, which are on file at the Issuing Office of the Engineer, Stanley Consultants, Inc., Muscatine, Iowa, from Ms. Mandy Hoag at hoagmandy@stanleygroup.com, telephone 563-264-6657. Prospective Bidders may contact the Issuing Office Mondays through Fridays between the hours of 8 am and 5 pm to obtain copies of the Bidding Documents as described below. Drawings include two plan sets; Stanley Consultants' West Hill Area Sanitary and Storm Sewer Separation – Phase 6D set; and City/MPW West Hill Area Sewer Separation Phase 6D Water Main Project set bound together.

Printed copies of the Bidding Documents consisting of 1 Project Manual and 1 full-size set of Drawings may be obtained from the Issuing Office, during the hours indicated above and on demand only, upon deposit or payment in the amount of \$250 for each set. Printed copies of 1 Project Manual and 1 half-size set of drawings are available for deposit of \$125 for each set. Additional Bidding Documents may be obtained at the same cost but are nonrefundable. The deposit for 1 base set will be refunded to those Bidders who return the Bidding Documents to the Issuing Office in good condition (suitable for re-use) within 14 days after the award of the project. Checks for Bidding Documents shall be payable to Stanley Consultants, Inc. Credit card payment is not available. Alternatively, Bidding Documents are available in electronic format (PDF) for no charge. Upon request, electronic bidding documents may be downloaded from the Issuing Office using a secure file transfer email link. Bidding documents will also be available electronically on the City's IonWave website. Plan holder list from IonWave may not include those plan holders who request printed sets only.

Upon Issuing Office's receipt of payment, printed Bidding Documents will be shipped. The date that the Bidding Documents are transmitted by the Issuing Office will be considered the prospective Bidder's date of receipt of the Bidding Documents. Partial sets of Bidding Documents will not be available from the Issuing Office. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office or IonWave website.

A pre-bid conference will be held at 2:00 pm on March 31, 2025 at Council Chambers at Muscatine City Hall. Representatives of Owner and Engineer will be present to discuss the Project. Attendance at the pre-bid conference is highly encouraged but is not mandatory. Bidders are highly encouraged to view site conditions between Hagerman Drive and Eisenhower Street prior to submitting bids.

The City of Muscatine's work to be performed under this Contract is a project assisted under a program providing Federal financial assistance from State Revolving Loan Fund administered by the Iowa Department of Natural Resources. A notice to proceed will be issued pending Finding of No Significant Impact (FNSI) approval from the state.

Each Bid shall be accompanied, in a separate PDF file, by Bid security in an amount of not less than 5% of the Bid. Bid Bonds must be executed by corporations authorized to contract as Surety in the State of Iowa and in

a form described in the Contract Documents. Bid security shall be forfeited if the Bidder fails or refuses to sign and deliver a signed Agreement and furnish required contract security.

Each Bid shall be accompanied with an Iowa Bidder Status Form. Form is available within project manual. State of Iowa Code, Chapter 73, has provisions for preference of Iowa resident bidders against nonresident bidders if the nonresident state has resident bidder preference requirements. It is the responsibility of nonresident bidders to identify and conform to applicable preferences. Failure to submit a complete and accurate Bidder Status Form with the Bid may result in the bid being deemed nonresponsive and rejected.

Bidders will be required to certify that for all Work to be performed pursuant to the Contract Documents, at least the prevailing rate of wages as found and determined by the Davis-Bacon Act will be paid to all workers and employees employed and working on the Project. Copies of prevailing rates of wages to be paid for each job title and classification in construction work are included in the Contract Documents.

All Bids shall be submitted on forms provided with the Project Manual, to the City's electronic bid submission system on or before the time specified above. If you haven't already done so, you will need to register as a supplier at the City's IonWave website to submit a bid. All bids must be submitted electronically. No paper, emailed faxed, hand-delivered bids will be accepted. No physical bid opening will be held. All bids will be evaluated by the City's electronic bid submission system.

Upon notification of award, Successful Bidder shall furnish contract security in the form of performance, payment, and maintenance bonds described in the Contract Documents.

Performance of the Work will start within 10 calendar days after date of Notice to Proceed and shall be completed within the time stated in the Contract Documents.

The City reserves the right to defer acceptance of any Bid for a period not to exceed 35 calendar days after the date Bids are to be received.

The City reserves the right to consider factors such as the responsibility and responsiveness of Bidders, including the Bidder's experience, number of employees, and ability to finance the cost of the project in determining Bid selection.

The City reserves the right to reject any or all Bids, to waive informalities or technicalities in any Bid and to accept the Bid which it deems to be in the best interest of the City.

CITY OF MUSCATINE, IOWA

By Matt Mardesen
City Administrator

Date _____

1.01 DEFINED TERMS

- A. Terms used in these Instructions to Bidders have the meanings indicated in the Statewide Urban Design and Specifications (SUDAS) Division 1 General Provisions and Covenants and project specific Special Provisions. Refer to SUDAS Section 1010 – Definitions for abbreviations, definitions, and terms used in the Contract.

1.02 COPIES OF BIDDING DOCUMENTS

- A. Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the Notice to Bidders.
- B. Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- C. Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

1.03 QUALIFICATIONS OF BIDDERS

- A. To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within 5 days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
 - 1. Evidence of Bidder's authority to do business in the state where the Project is located.
 - 2. Bidder's state or other contractor license number, if applicable.
 - 3. Subcontractor and Supplier qualification information; coordinate with provisions of Article Subcontractors, Suppliers, and Others in this Section.
 - 4. Other required information regarding qualifications.
 - 5. Reveal if you have been involved or are currently involved in litigation with the City of Muscatine.
 - 6. In the event a nonresident labor preference is applicable, the nonresident bidder shall submit the bidder's plan for conforming to the labor preference and supporting documentation.
- B. Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- C. No requirement in this Article to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- D. Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.
- E. Refer to SUDAS Section 1020, 1.01 for Qualifications of Bidders.

1.04 SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OTHER WORK AT THE SITE

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

- B. Existing site conditions:
1. Subsurface and Physical Conditions; Hazardous Environmental Conditions:
 - a. The Special Provisions identify:
 - 1) those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - 2) those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - 3) reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - 4) Technical Data contained in such reports and drawings.
 - b. Owner will provide electronic pdfs of material referenced in Special Provisions available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, established in the Special Provisions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
 - c. Technical data as defined in Special Provisions.
 2. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
 3. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in SUDAS Standard Specifications Section 1040, 1.08, and 1.09.
- C. Site visit and testing by bidders:
1. Bidder may conduct the Site visit during normal working hours, and shall not disturb any ongoing operations at the Site. Bidder is encouraged to visit private property area between Hagerman Drive and Eisenhower to observe proposed project area. Communicate plans to view private property area to City prior to visit.
 2. Bidder may conduct any subsurface testing, or exhaustive investigations of Site conditions.
 3. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
 4. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
 5. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.
- D. Other work at the Site: Refer to Special Provisions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

1.05 BIDDER'S REPRESENTATIONS

- A. It is the responsibility of each Bidder before submitting a Bid to:
1. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

2. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
3. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
4. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings;
5. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
6. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
7. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
8. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
9. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
10. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

1.06 PREBID CONFERENCE

- A. A prebid conference will be held at the time stated in the Notice to Bidders.
- B. Bidders are encouraged to attend and participate in the pre-bid conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

1.07 INTERPRETATIONS AND ADDENDA

- A. All questions about the meaning or intent of the Bidding Documents are to be submitted to Design Engineer in writing.

Ms. Karmen K. Heim
Stanley Consultants, Inc.
Stanley Building
225 Iowa Avenue
Muscatine, Iowa 52761-3764
Phone: 563-264-6287
Email: heimkarmen@stanleygroup.com

- B. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded by Engineer as having received the Bidding

Documents. Questions received less than 7 calendar days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- C. Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer. Refer to SUDAS Section 1020, 1.05 and 1.06 regarding Interpretations and Addendums.

1.08 BID SECURITY

- A. A Bid must be accompanied by Bid security made payable to Owner in an amount of 5% of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of SUDAS Standard Specifications Section 1070.
- B. The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- C. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 36 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- D. Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after the Bid opening.
- E. Refer to SUDAS Section 1020, 1.12 for Bid Security submittal requirements.
- F. In the event a nonresident labor preference is applicable, the nonresident bidder shall submit the bidder's plan for conforming to the labor preference and supporting documentation.

1.09 IOWA BIDDER STATUS FORM

- A. Bidder Status Form is required by the Iowa Labor Commissioner, pursuant to the Iowa Administrative Code rule 875-156.2(1). Bidder shall complete and submit Bidder Status Form, signed by an authorized representative of the Bidder, with their Bid.
- B. Under Iowa Administrative Code rule 875-156.2(1), failure to provide the Bidder Status Form with the Bid may result in the bid being deemed nonresponsive and may result in the Bid being rejected.
- C. The Worksheet: Authorized to Transact Business from the Labor Commissioner is included in this project manual and may be used to assist Bidders in completing the Bidder Status Form.
- D. Refer to SUDAS Section 1020, 1.09 for submittal requirements of the Iowa Bidder Status Form.

1.10 CONTRACT TIMES

- A. The number of days within which, or the dates by which, Milestones are to be achieved, and the Work is to be substantially completed and ready for final payment are set forth in the Contract.
- B. Refer to SUDAS Section 1080, 1.02 for Completion Date contract requirements.

1.11 LIQUIDATED DAMAGES

- A. Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Contract.
- B. Refer to SUDAS Section 1080, 1.12 for Liquidated Damages contract requirements.

1.12 SUBSTITUTE AND "OR-EQUAL" ITEMS

- A. The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- B. All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.
- C. Refer to SUDAS Section 1060, 1.02 for requirements on Alternate Processes, Equipment, Or Materials

1.13 SUBCONTRACTORS, SUPPLIERS AND OTHERS

- A. A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- B. Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- C. The apparent Successful Bidder, and any other Bidder so requested, shall within 5 days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers.
- D. If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- E. If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation.

1.14 PREPARATION OF BID PROPOSAL

- A. Bid Form is included with the Bidding Documents.
 - 1. All blanks on the Bid Form shall be completed and the Bid Form signed. Erasures or alterations shall be initialed by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, unit adjustment price item, and unit price item listed therein.
 - 2. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
 - 3. Bidders shall enter their bid within the City of Muscatine's IonWave bidding site (<https://muscatineiowa.ionwave.net>) which will match the Unit Price Schedule provided in Section 00 43 22. If Bidder notices a discrepancy the Bidder shall communicate to the City and Design Engineer immediately. All attachments and bid security shall be uploaded in PDF file format to the "Response Attachments" section of the bidding website. Attachments may be completed electronically, or by hand and scanned into a PDF file format, according to bidders preference. Verify you have uploaded all the required attachments prior to submitting your bid.
- B. Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
- C. Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- D. Bid by an individual shall show the Bidder's name and official address.
- E. Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- F. All names shall be printed below the signatures. All forms requiring signatures shall be signed in ink, scanned and uploaded to the IonWave bidding site as an attachment.
- G. Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- H. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- I. Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.
- J. Refer to SUDAS Section 1020 1.09 for Preparation of Proposal.

1.15 BASIS OF BID; COMPARISON OF BIDS

- A. Unit Price:
 - 1. Bidders shall submit a Bid on a unit price basis for each item of Work listed in Section 00 43 22 – Unit Price Schedule.
 - 2. The Bid Price for each unit price Bid item will be the product of the Estimated Quantity (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding Bid Unit Price offered by the Bidder. The total of all unit price Bid items will be the sum of these Bid Prices; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with SUDAS Standard Specifications Section 1090.

3. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

1.16 SUBMITTAL OF BID

- A. With each copy of the Bidding Documents, a Bidder is furnished a copy of the Bid Form, Unit Price Schedule, and the Bid Bond Form. The Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 8 of the Bid Form.
- B. A Bid shall be received no later than the date and time prescribed and at the place indicated in the Notice to Bidders and shall be plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents.
- C. Bids received after the date and time prescribed for the opening of bids, or not submitted in the designated manner, will not be accepted and will be returned to the Bidder unopened.
- D. Only bids submitted to the City's IonWave bidding site will be considered. Bids sent by mail, delivery system, faxed, hand-delivered, emailed or other electronic submittal means will not be considered.
- E. The final step of the online bid submission is a digital signature certifying all entries and response attachments to be correct. The signature must be by the same individual who is the Company Owner or an authorized Office of the Company. If an addendum which materially affects bid quantities is issued after your bid is submitted, your status will change from "Complete" to "Not Submitted". An addendum will not be issued less than 24 hours before the bid opening. The bidder is solely responsible for monitoring the status of their bid.

1.17 MODIFICATION AND WITHDRAWAL OF BID

- A. Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- B. If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph A. and submit a new Bid prior to the date and time for the opening of Bids.
- C. If within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.
- D. Refer to SUDAS Section 1020, 1.13 for Withdrawal or Revision of the Proposal Prior to Opening of Proposals

1.18 OPENING OF BIDS

- A. Bids will be opened at the time and place indicated in the Notice to Bidders. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.
- B. Refer to SUDAS Section 1020, 1.14 Opening of Proposals.

1.19 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- A. Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.
- B. Refer to SUDAS Section 1020, 1.15 Limitation on Withdrawal of Proposals After Opening of Proposals.

1.20 EVALUATION OF BIDS AND AWARD OF CONTRACT

- A. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- B. If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- C. Evaluation of Bids:
 - 1. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - 2. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- D. In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and suppliers proposed for those portions of the Work for which the identity of Subcontractors and suppliers must be submitted as provided in the Bidding Documents. Past project performance will be considered.
- E. Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or suppliers.
- F. Refer to SUDAS Section 1030 Approval for Award and Award of Contract.

1.21 BONDS AND INSURANCE

- A. SUDAS Standard Specifications Section 1070, as may be modified by the Special Provisions, sets forth Owner's requirements as to performance and payment bonds, 2-year maintenance bond, and insurance. When the Successful Bidder delivers the Contract (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

1.22 SIGNING OF CONTRACT

- A. When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Contract along with the other Contract Documents as identified in the Contract.
- B. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Contract (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner.

- C. Within 10 days thereafter, Owner shall deliver one fully executed counterpart of the Contract to Successful Bidder, together with printed and electronic copies of the Contract Documents.

1.23 SALES AND USE TAXES

- A. Owner is exempt from Iowa state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. Refer to SUDAS Standard Specifications Section 1020, 1.08 for additional information.
- B. Complete information on qualifying materials and supplies can be found at <https://tax.iowa.gov>, the Iowa Department of Revenue web site. Bids submitted for this Project should be submitted on this basis.

1.24 NON-SEGREGATED FACILITIES

- A. Bidders shall review the requirements of SRF Attachment 1 and submit a signed Certification of Non-Segregated Facilities.
- B. All subcontractors awarded subcontracts greater than \$10,000 must provide certification to the general contractor and certifications retained in their files.

1.25 DEBARMENT AND SUSPENSION

- A. Bidders and equipment suppliers who are listed on the U.S. General Services Administration Excluded Parties List will be prohibited from bidding.
- B. Refer to SRF Attachment 2. Bidders shall review, certify, and submit the completed form regarding debarment, suspension, and other responsibility matters.

1.26 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

- A. The project is subject to Iowa's Fair Share goals which aims at awarding work to small, minority, and women-owned businesses, collectively known as Disadvantaged Business Enterprises (DBEs).
- B. Bidders shall take affirmative action for DBE participation. Documentation of the efforts and proposed utilization of certified DBE's is required. Refer to SRF Attachments 3, 4, 5, and 6 for requirements.
- C. SRF Attachments 3 must be signed and submitted with bid. If the Bidder will be using DBE subcontractor (s), SRF Attachments 4 and 5 shall be submitted with the bid. SRF Attachment 6 is for voluntary use and not required to be submitted with the bid.

1.27 FEDERAL REQUIREMENTS

- A. The project is subject to the federal requirements as summarized in the SRF Attachment 7.
- B. Contractors shall abide by the Federal Equal Opportunity requirements.
- C. Contractors shall abide by the Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates).
- D. Project is subject to preservation of open competition and government neutrality toward government contractors' labor relations.
- E. If during the course of construction, evidence of deposits of historical or archeological interest are found, contractor shall cease operations affecting the find.
- F. Award of the project will be prohibited to persons or suppliers who have been convicted of violations of the Clean Air Act and the Clean Water Act.

1.28 RIGHT OF ENTRY AND RECORDS RETENTION

- A. Project is always subject to site inspections and project records and document audits from the Iowa Department of Natural Resources, the Iowa Finance Authority, the state auditor, and the US EPA.
- B. Refer to SRF Attachment 8 for requirements.

1.29 AMERICAN IRON AND STEEL

- A. Project is subject to American Iron and Steel provisions under the H.R. 3547 Consolidated Appropriations Act, 2014.
- B. All iron and steel products used in the project shall be produced in the United States.
- C. Contractor shall obtain certifications that products and materials used in the project are US made.
- D. Refer to SRF Attachment 9 for requirements and procedures for material certifications and waivers.

1.30 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.

- A. Bidder shall meet the terms and conditions of 2 CFR 200.216 which prohibit using loan funds on certain equipment, systems, or services.
- B. Bidder shall review, certify, and submit the signed form indicating their bid will meet the requirements listed on SRF Attachment 10.

END OF DOCUMENT

PROJECT AND CONTRACT IDENTIFICATION

This Bid pertains to Contract West Hill Area Sanitary and Storm Sewer Separation – Phase 6D for the City of Muscatine, Iowa.

ARTICLE 1 - BID RECIPIENT

- 1.01 This Bid is submitted to: CITY CLERK’S OFFICE
CITY PURCHASING AGENT
215 SYCAMORE STREET
MUSCATINE, IOWA 52761
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 - BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 35 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 - BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
 - A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum Date

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.
- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder’s safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. Submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 - BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, noncompetitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 - BASIS OF BID

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the price shown on Section 00 43 22 Unit Price Schedule.
- 5.02 Unit Price Bid: Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 - TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with paragraph 1.08 of SUDAS Standard Specifications Section 1090 Measurement and Payment on or before the dates or within the number of calendar days indicated in the Contract.
- 6.02 Bidder accepts the provisions of the Contract as to liquidated damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 - EXCEPTIONS AND CLARIFICATIONS

7.01 Attach a separate PDF file labeled "Exceptions and Clarifications" separate from the Bid, containing listing on Bidder's letterhead of all exceptions and clarifications to Contract Documents, referencing page number and paragraph of Contract Documents involved. If there are no exceptions or clarifications, include statement to such effect with the Bid. Excessive exceptions or clarifications may render Bid unresponsive. Bidder agrees to all provisions contained in Contract Documents unless specifically listed as an exception or clarification. If Bidder submits drawings, printed forms, standard statements, or other revisions which conflict with Contract Documents, the Contract Documents will prevail.

ARTICLE 8 - ATTACHMENTS TO THIS BID

8.01 The following documents are attached to and made a condition of this Bid:

- A. Statement of no Exceptions and Clarifications, if appropriate (submit with bid);
- B. Exceptions and Clarifications to Contract Documents, if appropriate, (submit with bid as separate PDF file);
- C. Required Bid security (submit with bid as separate PDF file);
- D. Required Iowa Bidder Status Form (submit with bid as separate PDF file);
- E. List of proposed Subcontractors and Suppliers; as requested after the bid.
- F. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
- G. Contractor's License No.: _____.
- H. Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- I. SRF Attachment 1 - Certification of Non-Segregated Facilities Form (submit with bid);
- J. SRF Attachment 2 - Statement in Advertisement for Bids on Debarment and Suspension/Certification Regarding Debarment and Suspension Form (submit with bid);
- K. SRF Attachment 3 - Disadvantaged Business Enterprise Certification Form (submit with bid);
- L. SRF Attachment 4 - DBE Program Subcontractor Performance Form (submit with bid if using a DBE);
- M. SRF Attachment 5 - DBE Program Subcontractor Utilization Form (submit with bid if using a DBE);
- N. SRF Attachment 6 - DBE Program Subcontractor Participation Form (voluntary form, not required for bidding);
- O. SRF Attachment 7 - Other Federal Requirements Language (incorporated by reference)
 - a. Standard Federal 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
- P. SRF Attachment 8 - Right of Entry and Records Retention (incorporated by reference);
- Q. SRF Attachment 9 - Use of American Iron and Steel (incorporated by reference);
- R. SRF Attachment 10 - Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (submit with bid)

ARTICLE 9 - DEFINED TERMS

9.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the SUDAS General Provisions and Covenants, and the Special Provisions.

ARTICLE 10 - BID SUBMITTAL

Bidder: *(Indicate correct name of bidding entity)*

By: _____
(Signature)

(Printed Name)
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____
(Signature)

Title: _____
(Printed Name)

Submittal Date: _____

Address for giving notices:

Telephone No. _____

Facsimile No. _____

Contact Name and email address: _____

Contractor's License Number: _____.

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name and Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

WEST HILL AREA - SANITARY AND STORM SEWER SEPARATION PHASE 6D					
MUSCATINE, IOWA					
No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
1	CLEARING AND GRUBBING BY UNITS	195.1	UNIT		
2	GRUBBING BY LUMP SUM	1	LS		
3	TOPSOIL, ON-SITE TOPSOIL	1648	CY		
4	TOPSOIL, OFF-SITE TOPSOIL, CONTRACTOR PROVIDED	1344	CY		
5	TOP SOIL, OFF-SITE TOPSOIL, OWNER PROVIDED	149	CY		
6	CLASS 10 EXCAVATION	2181	CY		
7	CLASS 10 EXCAVATION, GRADING EARTHWORK	204	CY		
8	CLASS 13 EXCAVATION - DEBRIS REMOVAL AND DISPOSAL	120	TONS		
9	GRANULAR STABILIZATION, 12" GRANULAR SUBBASE	2764	SY		
10	SUBGRADE TREATMENT, GEOTEXTILE	2764	SY		
11	GRANULAR SUBBASE - 6" (UNDER ROADWAY PAVEMENT) (CONTRACTOR PROVIDED)	6634	SY		
12	GRANULAR SUBBASE - 6" (UNDER ROADWAY PAVEMENT) (CITY FURNISHED CRUSHED CONCRETE)	4423	SY		
13	SPECIAL BACKFILL - CONTRACTOR PROVIDED MATERIAL - 6" (UNDER DRIVEWAY/ALLEY)	1380	SY		
14	SPECIAL BACKFILL - CONTRACTOR PROVIDED MATERIAL - 4" (UNDER SIDEWALKS)	97	SY		
15	TEMPORARY GRANULAR SURFACE	491	TONS		
16	REMOVALS, PIPES	250	LF		
17	REMOVALS, PIPES, EXISTING UWBS	1234	LF		
18	FILLING AND PLUGGING OF PIPE	190	LF		
19	STEEL BEAM GUARDRAIL	54	LF		
20	TRENCH FOUNDATION (1-INCH CLEAN)	300	CY		
21	STABLIZED (FOUNDATION) MATERIALS	50	CY		
22	SHEETING LEFT IN PLACE	400	SF		
23	EXPLORATORY TRENCH AND TEST DIGS	100	LF		
24	VIBRATION MONITORING	1	LS	\$ 20,000	\$ 20,000
25	EXCAVATION PLAN	1	LS		
26	SANITARY SEWER SERVICE, 4" OR 6" PVC (ASTM D3034)	524	LF		
27	SANITARY SEWER SERVICE, 4" OR 6" PVC (ASTM D3034) OUTSIDE OF ROW	246	LF		
28	SANITARY SEWER SERVICE, TRENCHLESS	140	LF		
29	SANITARY SEWER, POLYVINYL CHLORIDE COMPOSITE PIPE (TRUSS TYPE PVC), 8"	362	LF		
30	SANITARY SEWER, POLYVINYL CHLORIDE COMPOSITE PIPE (TRUSS TYPE PVC), 12"	411	LF		
31	SANITARY SEWER, POLYVINYL CHLORIDE COMPOSITE PIPE (TRUSS TYPE PVC), 15"	3124	LF		
32	SANITARY SEWER, 18" PVC	23	LF		
33	SANITARY SEWER, 15" DIP	87	LF		
34	SANITARY SEWER, TRENCHLESS CONSTRUCTION, 12" SEWER	15	LF		
35	SANITARY SEWER, TRENCHLESS CONSTRUCTION, 15" SEWER	30	LF		
36	SANITARY SEWER SERVICE CONNECTIONS TO MAIN, (4" AND 6")	46	EA		
37	SANITARY SEWER CLEANOUT	1	EA		

WEST HILL AREA - SANITARY AND STORM SEWER SEPARATION PHASE 6D					
MUSCATINE, IOWA					
No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
38	SANITARY SEWER INTERNAL HOME REPLUMBING	1	LS	\$80,000	\$80,000
39	SEWER, DIP, WATER MAIN MATERIAL, FOR CONFLICTS, 8"	30	LF		
40	SEWER, DIP, WATER MAIN MATERIAL, FOR CONFLICTS, 12"	30	LF		
41	SEWER, DIP, WATER MAIN MATERIAL, FOR CONFLICTS, 16"	30	LF		
42	SEWER, PVC, WATER MAIN MATERIAL, FOR CONFLICTS, 8"	30	LF		
43	SEWER, PVC, WATER MAIN MATERIAL, FOR CONFLICTS, 12"	30	LF		
44	SEWER, PVC, WATER MAIN MATERIAL, FOR CONFLICTS, 16"	30	LF		
45	STORM SEWER, 12", CLASS IV RCP	8	LF		
46	STORM SEWER, 15", CLASS IV RCP	380	LF		
47	STORM SEWER, 18", CLASS IV RCP	1152	LF		
48	STORM SEWER, 21", CLASS IV RCP	9	LF		
49	STORM SEWER, 24", CLASS IV RCP	267	LF		
50	STORM SEWER, 30", CLASS IV RCP	383	LF		
51	STORM SEWER, 48" ELLIPTICAL (38"HX60"W), CLASS IV RCP	1221	LF		
52	STORM SEWER INLET PIPING, 12" PVC (ASTM F949)	20	LF		
53	STORM SEWER INLET PIPING, 15" PVC (ASTM F949)	20	LF		
54	PIPE APRON, FOOTING, GUARD	5	EA		
55	TYPE 1 SUBDRAINS (LONGITUDINAL) CORRUGATED PE, 4"	5857	LF		
56	SUBDRAIN OUTLETS AND CONNECTIONS	15	EA		
57	PRE-REHABILITATION CLEANING AND INSPECTION, ALL DIAMETERS	994	LF		
58	CIPP MAIN LINING, 12"	594	LF		
59	CIPP MAIN LINING, 15"	400	LF		
60	BUILDING SANITARY SEWER SERVICE REINSTATEMENT	30	EA		
61	BYPASS PUMPING, HAGERMAN DR STORM	1	LS		
62	INTERNAL VIDEO INSPECTION (ALL SEWER)	7427	LF		
63	WATER SERVICE PIPE, COPPER, 1"	600	LF		
64	WATER SERVICE CORPORATION	15	EA		
65	WATER SERVICE CURB STOP AND BOX	15	EA		
66	FIRE HYDRANT ASSEMBLY	1	EA		
67	SANITARY MANHOLE, ECCENTRIC, SW-301, 5' DIAMETER (8' DEEP)	21	EA		
68	SANITARY MANHOLE, EXTRA DEPTH, 5' DIAMETER	59.9	LF		
69	SANITARY MANHOLE, SW-301 FLAT TOP, 5' DIAMETER	1	EA		
70	STORM MANHOLE, FLAT TOP, SW-401, 5' DIAMETER (UP TO 8' DEEP)	7	EA		
71	STORM MANHOLE, EXTRA DEPTH, 5' DIAMETER	10.7	LF		
72	STORM MANHOLE, SW-401, 8' DIAMETER	3	EA		
73	STORM MANHOLE, SW-401, 8' DIAMETER WITH 4' DIAMETER RISER	1	EA		

WEST HILL AREA - SANITARY AND STORM SEWER SEPARATION PHASE 6D					
MUSCATINE, IOWA					
No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
74	MANHOLE REPLACEMENT RISER SECTIONS, 3' RISER	9.6	LF		
75	STORM MANHOLE, SW-406, SHALLOW RECTANGULAR (8'X8')	1	EA		
76	STORM INLET, SW-501	1	EA		
77	STORM INLET, SW-502, 5'	4	EA		
78	STORM INLET, SW-507	5	EA		
79	STORM INLET, SW-509	7	EA		
80	STORM INLET, SW-512, 24" DIAMETER, 604 TYPE 5	1	EA		
81	SANITARY INTERNAL DROP CONNECTION	3	EA		
82	REMOVE MANHOLE OR INTAKE	24	EA		
83	CURB OPENING CASTING	10	EA		
84	MANHOLE CASTING	1	EA		
85	PCC PAVEMENT, 7 INCH	9756	SY		
86	PCC PAVEMENT SAMPLES AND TESTING	1	LS		
87	ASPHALT PAVEMENT BY TON	75	TON		
88	REMOVAL OF DRIVEWAY/ALLEY	1312	SY		
89	REMOVAL OF SIDEWALK	92	SY		
90	REMOVAL OF CURB, LIMESTONE CURB	20	LF		
91	PCC SIDEWALK, 4-INCH	97	SY		
92	PCC SIDEWALK, 6-INCH	3	SY		
93	DETECTABLE WARNINGS	25	SF		
94	PAVED DRIVEWAYS, AND ALLEYS, PCC, 6-INCH	1380	SY		
95	MILLING	7587	SY		
96	PAVEMENT REMOVAL, CONCRETE	1770	SY		
97	SUBBASE MATERIAL REMOVAL AFTER MILLING	7587	SY		
98	PAINTED PAVEMENT MARKINGS, DURABLE	1.2	STA		
99	TEMPORARY TRAFFIC CONTROL	1	LS		
100	SPECIAL SIGNAGE	64	SF		
101	SEEDING, FERTILIZING & MULCHING FOR CONVENTIONAL SEEDING, RESIDENTIAL (TYPE 1)	1000	SF		
102	SEEDING, FERTILIZING, & MULCHING FOR HYDRAULIC SEEDING, RESIDENTIAL (TYPE 1)	80649	SF		
103	SEEDING, FERTILIZING, & MULCHING FOR HYDRAULIC SEEDING, NOT MOWED MIX (TYPE 2)	88966	SF		
104	PLANTS, LANDSCAPING BY AREA	406	SF		
105	SWPPP MANAGEMENT	1	LS		
106	FILTER SOCKS	5857	LF		
107	TEMPORARY ROLLED EROSION CONTROL PRODUCTS (RECP) TYPE 4.B (LONG TERM)	7125	SY		
108	RIPRAP, CLASS D AND E REVETMENT	10	TONS		
109	EROSION STONE	40	TONS		
110	SILT FENCE OR SILT FENCE DITCH CHECK	1670	LF		
111	STABLIZED CONSTRUCTION EXIT	9	EA		
112	EROSION CONTROL MULCHING, HYDROMULCHING	3.9	ACRE		
113	INLET PROTECTION DEVICE, DROP IN PROTECTION	10	EA		
114	INLET PROTECTION DEVICE, OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	40	LF		
115	TURF REINFORCEMENT MESH (TEMPORARY)	4000	SF		

WEST HILL AREA - SANITARY AND STORM SEWER SEPARATION PHASE 6D					
MUSCATINE, IOWA					
No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
116	REMOVAL AND REINSTALLATION OF EXISTING FENCE	165	LF		
117	RETAINING WALL, ALL TYPES	95	SF		
118	CONCRETE STEPS	70	SF		
119	HANDRAIL	30	LF		
120	CONSTRUCTION SURVEY	1	LS		
121	RECORD DRAWINGS	1	LS		
122	MOBILIZATION	1	LS		
123	MOBILIZATION, EROSION CONTROL	9	EA		
124	EXISTING CONDITIONS VIDEO RECORD	1	LS		
125	MAINTENANCE OF POSTAL SERVICE	1	LS		
126	MAINTENANCE OF SOLID WASTE COLLECTION	1	LS		
127	CONCRETE WASHOUT	1	LS		
201	WATER MAIN, TRENCHED, C-900 PVC, RESTRAINED JOINT 6"	97	LF		
202	FITTINGS, 90 DEGREE ELBOW, 6"	1	EA		
203	FITTINGS, 45 DEGREE ELBOW, 6"	7	EA		
204	FITTINGS, 90 DEGREE STREET ELBOW, 6"	1	EA		
205	WATER SERVICE ADJUSTMENT, COPPER, 3/4" (REF. NOTE 1)	2	EA		
206	WATER SERVICE ADJUSTMENT, COPPER, 1" (REF. NOTE 2)	1	EA		
207	WATER MAIN ABANDONMENT, CAP	85	LF		
208	TAPPING SLEEVE AND VALVE, 6"	2	EA		
209	CUT-IN-CONNECTION, 6"	2	EA		
210	TAPPING SLEEVE AND VALVE, 6"	2	EA		
TOTAL OF ALL BID ITEMS 1 - 210					\$

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 on the next page).
- 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 email.
- Yes No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.
- Yes No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

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

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

To be completed by resident bidders

Part B

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

Dates: _____ / _____ / _____ to _____ / _____ / _____ Address: _____

City, State, Zip: _____

Dates: _____ / _____ / _____ to _____ / _____ / _____ Address: _____

City, State, Zip: _____

Dates: _____ / _____ / _____ to _____ / _____ / _____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders

Part C

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

2. Does your company's home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? Yes No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

You may attach additional sheet(s) if needed.

To be completed by all bidders

Part D

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

Signed Name: _____ Signature: _____

Firm Name: _____ Date: _____

Email Address: _____ Phone Number: _____

This form has been approved by the Department of Administrative Services Director.

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.

THIS CONTRACT is by and between _____ (Owner) and _____ (Contractor).

Owner and Contractor hereby agree as follows:

ARTICLE 1 - WORK

1.1 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as construction of sanitary and storm sewer to separate existing West Hill combined sewer system. Additional work includes general construction of full-width pavement replacement in the West Hill project area.

ARTICLE 2 - THE PROJECT

2.1 The Project for which Work under the Contract Documents may be the whole or only a part is generally described as West Hill Area Sanitary and Storm Sewer Separation – Phase 6D.

ARTICLE 3 - ENGINEER

3.1 The Project has been designed by Stanley Consultants, Inc. who is to assume all responsibilities, and have rights and authority assigned to Owner's Engineering Consultant or Engineer during design and bidding in completion of the Work in accordance with the Contract Documents.

3.2 The Owner will provide a representative to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer during construction in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.1 *Time of the Essence.* All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.2 *Milestones.* Parts of the Work shall be substantially completed on or before the following Milestone(s):

- A. Milestone 1: All pipe and paving work on Hagerman Drive extending from Roscoe Avenue past the driveways for 522 and 523 Hagerman Drive. Substantial completion for this work shall be on or before August 1, 2025 and ready for payment in accordance with 1.08 of Section 1090 of SUDAS Standard Specifications.
- B. Milestone 2: All pipe, paving and restoration work on Hagerman Drive beyond Milestone 1 stopping point to the sewer tie-in location with the Upper West Branch Sewer (UWBS) at manhole ST 5. Substantial completion for this work shall be on or before November 28, 2025 and ready for payment in accordance with 1.08 Section 1090 of SUDAS Standard Specifications.
- C. Milestone 3: All piping in the ravine area between Hageman Drive and Logan Street and Logan Street storm and sanitary work. Substantial completion for this work shall be on or before April 17, 2026 and ready for payment in accordance with 1.08 of Section 1090 of SUDAS Standard Specifications.
- D. Milestone 4: All remaining project work will be substantially completed on or before November 29, 2026 and completed and ready for final payment in accordance with paragraph 1.08 of Section 1090 of the 2025 SUDAS Standard Specifications on or before December 31, 2026.

4.3 *Liquidated Damages.* Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.1 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.2 A, 4.2B, 4.2C, and 4.2D above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

- A. Substantial Completion: Contractor shall pay Owner \$500.00 for each calendar day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.2 A, 4.2B, 4.2C, and 4.2D above for Substantial Completion until the Work is substantially complete.
- B. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$300.00 for each calendar day that expires after such time until the Work is completed and ready for final payment.
- C. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.4 After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.2 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.1 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item). The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 1.03 of SUDAS Section 1020 of SUDAS Standard Specifications, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.
- B. For all Work, at the prices stated in Document 00 43 22 - Unit Price Schedule, attached hereto as an exhibit.
- C. Total of Bid Prices for all Unit Price Work:

_____ (words)
 _____ (\$ _____).
 (figures)

ARTICLE 6 - PAYMENT PROCEDURES

6.1 *Submittal and Processing of Payments.* Contractor shall submit Applications for Payment in accordance with Section 1090 of SUDAS Standard Specifications. Applications for Payment will be processed by Engineer as provided in the SUDAS Standard Specifications.

6.2 *Progress Payments; Retainage.* Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment each month during performance of the Work as provided in Paragraph 6.2.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established on the Unit Price Schedule based on the number of units completed.

- A. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract:
 - 1. 95% percent of Work completed (with the balance being retainage).

2. 95% of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100% of the Work completed, less such amounts set off by Owner pursuant to Section 1090 of SUDAS Standard Specifications and less 200% of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.3 *Final Payment.* Upon final completion and acceptance of the Work in accordance with paragraph 1.08 of the Section 1090 Measurement and Payment of SUDAS Standard Specifications, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said paragraph 1.08.

ARTICLE 7 - INTEREST

7.1 All amounts not paid when due shall bear interest at the maximum rate allowed by law.

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

8.1 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
- B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Contract are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 - CONTRACT DOCUMENTS

9.1 *Contents:* The Contract Documents consist of the following:

- A. This Contract (pages 1 to , inclusive).
- B. Section 00 43 22 Unit Price Schedule
- C. Performance and Payment Bond (pages 1 to , inclusive).
- D. SUDAS General Provisions and Covenants (pages 1 to 74, inclusive).
- E. Special Provisions (pages 1 to , inclusive).
- F. SRF provisions and specifications (SRF Attachments 1 thru 10);
- G. Davis Bacon Wage Rates
- H. Specifications as listed in Project Manual table of contents.
- I. Drawings as listed on the Drawing Index Sheet.
- J. Addenda numbers to , inclusive.
- K. Exhibits to this Contract (enumerated as follows):
- L. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - 1. Notice to Proceed.
 - 2. Instructions to Contractors.
 - 3. Change Orders.
 - 4. Field Orders.

9.2 The documents listed in paragraph 9.1 are attached to this Contract (except as expressly noted otherwise above).

9.3 There are no Contract Documents other than those listed above in this Article 9.

9.4 The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.1 *Terms.* Terms used in this Contract will have the meanings indicated in the SUDAS General Provisions and Covenants and the Special Provisions.

10.2 *Assignment of Contract.* Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.3 *Successors and Assigns.* Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.4 *Severability.* Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.5 *Contractor's Certification.* Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.5:

- A. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
- B. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
- C. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
- D. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.6 *Other Provisions.* Owner stipulates that the General Conditions that are made a part of this Contract are based on 2025 SUDAS Standard Specifications – Division 1 General Provisions and Covenants for the Construction Contract, published by the Iowa Statewide Urban Design and Specifications (SUDAS) Program and Owner is the party that has furnished said General Conditions, and has plainly shown all modifications to the standard wording of such published document to the Contractor in the Special Provisions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Contract. This Contract will be effective on _____, 2025 (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest _____

Attest _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Owner-Contractor Contract.)

License No. _____
(Where applicable)

END OF DOCUMENT

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS THAT, a Principal, hereinafter called the Contractor and

(Here insert the legal title of Surety)

as Surety, hereinafter called the Surety, are held and firmly bound unto City of Muscatine, Muscatine County, Iowa as Oblige, hereinafter called the Owner, in the amount of

DOLLARS (\$ _____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____, 2025, entered into a Contract with Owner for

WEST HILL AREA SANITARY AND STORM SEWER SEPARATION– PHASE 6D
PROJECT

in accordance with drawings and specifications prepared by Stanley Consultants, Inc., Muscatine, Iowa, which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then the obligation of this bond shall be null and void; otherwise it shall remain in full force and effect.

A. The Surety hereby waives notice of any alteration by Owner to be, in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for submission to Owner for completing the Contract in accordance with its terms and conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a succession or defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price", as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to

Contractor.

- B. The Contractor and his surety shall be obligated to remedy any defects in workmanship or materials that may develop in the improvements covered by this bond for a period of two (2) years from the date of acceptance of the improvements by the owner.
- C. Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the contract falls due.
- D. No right of action shall accrue to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

IT IS A FURTHER CONDITION OF THIS OBLIGATION that the principal and surety shall, in accordance with the provisions of Chapter 573 of the Code of Iowa, pay to all persons, firms or corporations having contracts directly with the principal or with subcontractors all just claims due them for labor performed or materials furnished in the performance of the contract on account of which this bond is given.

The provisions of Chapter 573, Code of Iowa, are a part of this bond to the same extent as if they were expressly set out herein.

SIGNED AND SEALED THIS _____ DAY OF _____, A.D. 2025.

IN THE PRESENCE OF:

PRINCIPAL

WITNESS

TITLE

SURETY

Table of Contents

Section 1010 - Definitions		Page No.
1.01	Description	1
1.02	Abbreviations	1
1.03	Definitions and Terms	2
Section 1020 - Proposal Requirements and Conditions		
1.01	Qualification of the Bidders	1
1.02	Contents of the Proposal Forms	1
1.03	Quantities and Unit Prices	1
1.04	Examination of the Contract Documents and Site of Work	2
1.05	Interpretation of the Contract Documents	2
1.06	Addendum	3
1.07	Preference for Labor and Materials	3
1.08	Taxes	3
1.09	Preparation of the Proposal	4
1.10	Bidders Certification	5
1.11	Irregular and Nonresponsive Proposals	5
1.12	Submission of the Proposal, Identity of Bidder, and Bid Security	6
1.13	Withdrawal or Revision of the Proposal Prior to Opening of Proposals	6
1.14	Opening of Proposals	7
1.15	Limitation on Withdrawal of Proposals After Opening of Proposals	7
Section 1030 - Approval for Award and Award of Contract		
1.01	Acceptance or Rejection of Proposals	1
1.02	Release of Bid Security	2
1.03	Award of Contract	2
Section 1040 - Scope of Work		
1.01	Intent of the Contract Documents	1
1.02	Correlation of the Contract Documents	1
1.03	Coordination of Specifications, Plans, and Special Provisions	1
1.04	Conformity with the Contract Documents	2

Section 1040 - Scope of Work (Continued)		Page No.
1.05	Plans	2
1.06	Increase or Decrease of Work	2
1.07	Change Orders	3
1.08	Site Conditions	3
1.09	Changed Site Conditions	4
1.10	Disputed Claims for Extra Compensation	4
1.11	Delays Caused by the Jurisdiction	6
1.12	Oral Agreements, Conversations, and Informal Communications	6
1.13	Errors or Omissions	6
Section 1050 - Control of Work		
1.01	Authority of the Engineer	1
1.02	Authority and Duties of the Engineer's Authorized Representative	1
1.03	Cooperation by the Contractor	2
1.04	Cooperation with Other Contractors	2
1.05	Shop Drawings, Certificates, and Equipment Lists	3
1.06	Conflict Avoidance	3
1.07	Examination of Materials and Work	3
1.08	Removal of Defective Work and Materials	4
1.09	Unauthorized Work	4
1.10	Line and Grade Stakes	4
1.11	Providing Job Site Utilities	5
1.12	Salvage	5
1.13	Protection of Water Quality and Wetlands	5
1.14	Final Inspection and Acceptance	5
1.15	Additional Contractor Responsibilities	6
Section 1060 - Control of Materials		
1.01	Materials Source of Supply and Quality Requirements	1
1.02	Alternate Processes, Equipment, or Materials and Other Substitutions	1
1.03	Samples and Testing	3
1.04	Storage of Materials	3

Section 1060 - Control of Materials (Continued)		Page No.
1.01	Unacceptable Materials	3
1.02	Materials Supplied by the Jurisdiction	3
1.03	Materials Supplied by the Contractor	3
Section 1070 - Legal Relations and Responsibility to the Public		
Part 1 - Legal Relations		
1.01	Municipal Regulations, State, and Federal Laws and Regulations	1
1.02	Governing Law	2
1.03	Permits and Licenses	2
1.04	Patents and Royalties	2
1.05	Use and Occupancy Prior to Completion of Contract	2
1.06	Contractor's Responsibility for the Work	2
1.07	Responsibility for Damage Claims	3
1.08	Personal Liability of Public Officials	3
1.09	Waiver of Legal Rights	3
1.10	Acceptance by the Jurisdiction - Not a Waiver of Contractor's Obligations or a Waiver of the Jurisdiction's Rights	3
1.11	Business Organization Requirements	4
1.12	Consent to Jurisdiction of Iowa District Court or Federal District Court in Iowa	5
1.13	Severability	5
Part 2 - Responsibilities to the Public		
2.01	Sanitation	6
2.02	Convenience and Safety	6
2.03	Work Area	7
2.04	Project Area for the Work	7
2.05	Explosives	8
2.06	Traffic Control	8
2.07	Protection of Aboveground and Underground Facilities	9
2.08	Protection of Property	9
2.09	Land Monuments	10

Section 1070 - Legal Relations and Responsibility to the Public (Continued)		Page No.
2.10	Dust Control	10
2.11	Environmental and Historic Items	10
2.12	Railroad Crossings	10
2.13	Borrow and Waste Sites	10
2.14	Maintaining Postal Service	11
2.15	Finishing and Cleanup Requirements	11
 Part 3 - Bonds and Insurance		
3.01	Performance, Payment, and Maintenance Bond	12
3.02	Insurance Requirements	12
3.03	Contractor's Indemnity - Contractual Liability Insurance	14
3.04	Contractor's Insurance for Other Losses; Waiver of Subrogation	15
3.05	Property Insurance	16
3.06	Endorsement Naming Jurisdiction as an Additional Insured / Cancellation and Material Change / Governmental Immunities Endorsement	18
3.07	Proof of Insurance	19
3.08	Notification in Event of Liability or Damage	20
3.09	Sample Insurance Forms - See www.iowasudas.org	20
 Section 1080 - Prosecution and Progress		
1.01	Subletting or Assignment of Contract	1
1.02	Contract Time	2
1.03	Work Progress and Schedule	3
1.04	Preconstruction Conference	3
1.05	Notice to Proceed	3
1.06	Weekly Record of Working Days	3
1.07	Work on Sundays or Legal Holidays	4
1.08	Temporary Suspension of Working Days	5
1.09	Extension of Time	5
1.10	Contractor's Employees, Methods, and Equipment	6
1.11	Contractor's Equipment Identification	7

Section 1080 - Prosecution and Progress (Continued)		Page No.
1.12	Liquidated Damages	7
1.13	Breach of Contract	8
1.14	Termination of Contractor's Responsibility	9
Section 1090 - Measurement and Payment		
1.01	Measurement	1
1.02	Scope of Payment	1
1.03	Lump Sum Breakdowns	1
1.04	Payment for Change Orders	1
1.05	Progress Payments	2
1.06	Payment of Retainage	2
1.07	Sales and Use Tax Statement	3
1.08	Acceptance and Final Payment	3

DEFINITIONS**1.01 DESCRIPTION**

Wherever the following definitions, terms, and abbreviations, or pronouns in place of them, are used in the plans, specifications, or other contract documents, the intent and meaning shall be interpreted as specified in this Section.

1.02 ABBREVIATIONS

Wherever in these specifications and contract documents the following abbreviations are used, they shall be understood to mean as follows: The serial designation of each reference shall be the latest year of adoption or revision, unless otherwise specified.

AAN - American Association of Nurserymen
AAR - Association of American Railroads
AASHTO (or AASHO) - American Association of State Highway and Transportation Officials
ACI - American Concrete Institute
AIA - American Institute of Architects
AMG - Automated Machine Guidance
ANSI - American National Standards Institute
API - American Petroleum Institute
APWA - American Public Works Association
ARA - American Railway Association
AREA - American Railway Engineering Association
ASA - America Standards Association
ASCE - American Society of Civil Engineers
ASLA - American Society of Landscape Architects
ASTM - American Society for Testing and Materials
AWPA - American Wood Preservers Association
AWS - American Welding Society
AWWA - American Water Works Association
BSC - Bituminous Seal Coat
CFR - Code of Federal Regulations
CLSM - Controlled Low Strength Material
CMP - Corrugated Metal Pipe
CPM - Critical Path Method
CRSI - Concrete Reinforcing Steel Institute
DIP - Ductile Iron Pipe
DNR - Department of Natural Resources
DOT - Department of Transportation
EEI - Edison Electric Institute
EPA - Environmental Protection Agency
FHWA - Federal Highway Administration
FSS - Federal Specification and Standards
ESAL - Equivalent Single Axle Load
GGBFS - Ground Granulated Blast Furnace Slag
GPS - Global Positioning System
GRI - Geosynthetic Research Institute
HDPE - High Density Polyethylene Pipe
HMA - Hot Mix Asphalt
IAC - Iowa Administrative Code
IEEE - Institute of Electrical and Electronics Engineers
IES - Illuminating Engineering Society
ICEA (or IPCEA) - Insulated Cable Engineers Association
IMSA - International Municipal Signal Association, Inc.
ISO - Insurance Services Office
ITE - Institute of Transportation Engineers
JMF - Job Mix Formula

1.02 ABBREVIATIONS (Continued)

MAPLE - Materials Approved Product List Enterprise
MGAL - 1,000 Gallons
MUTCD - Manual on Uniform Traffic Control Devices
NEC - National Electrical Code
NEMA - National Electrical Manufacturers Association
NFPA - National Fire Protection Association
NPDES - National Pollutant Discharge Elimination
NSF - National Sanitation Foundation
OSHA - Occupational Safety of Health Administration
PCC - Portland Cement Concrete
PLS - Pure Live Seed
PROWAG - Public Right-of-Way Accessibility Guidelines
PVC - Polyvinyl Chloride
RAP - Recycled Asphalt Pavement
RCAP - Reinforced Concrete Arch Pipe
RCP - Reinforced Concrete Pipe
SAE - Society of Automotive Engineers
SDR - Standard Dimension Ratio
SSPC - Steel Structures Painting Council
SUDAS - Statewide Urban Design and Specifications
SWPPP - Stormwater Pollution Prevention Plan
UL - Underwriters' Laboratories, Inc.
US - United States
USC - United States Code
VCP - Vitrified Clay Pipe

1.03 DEFINITIONS AND TERMS

ADDENDUM. A revision to the contract documents written and issued after the notice to bidders, and prior to the time for receipt of proposals. Changes reflected in the Addendum shall govern over all other contract documents.

ALLEY. See Street.

APPROVED EQUAL (EQUIVALENT). A product, process, equipment, or material that, upon approval of the Engineer, is determined to meet or exceed the requirements called for by the specifications. Upon approval, the item will be allowed in lieu of the specified material, process, equipment, or product.

AWARD. The acceptance of the proposal of the lowest responsive, responsible bidder for the work, which shall not be binding upon the Contracting Authority until the contract for the said work has been executed by the bidder and by the Contracting Authority and bond(s) has been provided by the bidder as required by law.

BID. A properly signed and guaranteed written offer of the bidder containing the bid amount to perform the work. Bid is the same as Proposal.

BID AMOUNT. The aggregate sum obtained by totaling the amounts arrived at by multiplying the quantity of each bid item, as shown in the bid or proposal, by the unit price specified in the proposal for that bid item, including lump sum bid items.

BID ITEM. A specifically described unit of work for which a price is provided in the proposal. A bid item may also be referred to as a contract item.

BID SECURITY. The security furnished by the bidder with its bid as guaranty that the bidder will execute the contract and furnish bond for the work if the proposal is accepted. For bids submitted to governmental entities, the bidder shall furnish bid security as defined in Iowa Code Chapter 26.

1.03 DEFINITIONS AND TERMS (Continued)

BIDDER. Any individual, firm, partnership, joint venture, corporation, or association licensed or otherwise authorized by law to do business where the work is located, which has submitted a proposal for the work, acting directly or through a duly authorized representative.

CALENDAR DAY. Every day shown on the calendar.

CHANGE ORDER. A written order to the Contractor signed and approved by the Contracting Authority, ordering a change in the work from that originally shown by the plans and specifications. Change orders duly signed and executed by the Contracting Authority and the Contractor shall constitute authorized modifications of the contract.

COMMENCEMENT OF WORK. Work will be considered commenced when the Contractor's operations are started on items of work covered by the contract documents, or when the Contractor notifies the Engineer, and the Engineer agrees, that the Contractor's equipment and personnel are available to the site but the operations are prevented by conditions outside the Contractor's control.

COMPETITIVE QUOTATION. A properly signed written offer of the Contractor according to Iowa Code Chapter 26.

CONTRACT. The written agreement, between the Contractor and the Contracting Authority, setting forth the terms and conditions under which the work is to be performed. The contract includes all contract documents.

CONTRACT AMOUNT. The bid amount plus approved change orders.

CONTRACT DOCUMENTS. The contract documents consist of the following: The notice to bidders and notice of public hearing; the instructions to bidders; special provisions; standard specifications; general supplemental specifications; supplemental specifications; plans; addenda; proposal; contract; performance, payment, and maintenance bond; insurance certificate(s); Notice to Proceed; and change orders. These documents form the agreement whereby the Contractor will furnish all labor, equipment, tools, and materials, and perform all work necessary to satisfactorily accomplish the proposed improvement. The contract documents are complementary and what is called for by one shall be as binding as if called for by all.

CONTRACTING AUTHORITY. The body, entity, board, commission, officer, or governmental entity having authority to award a contract.

CONTRACTOR. The individual, firm, partnership or corporation, and the heirs, executors, administrators, successors and assigns thereof, or the lawful agent of any such individual, firm, partnership, or corporation, or the surety thereof under the contract bond, constituting one of the principals to the contract and undertaking to perform the work herein specified. Where the pronoun "it" is used as referring to the word "Contractor" it shall mean the Contractor as defined above.

CONTROLLING ITEM OF WORK. The unique activity of a contract that will determine the duration of the construction period or if a working day is charged. The character of this work may change during the project. It is the work that could be in progress at any time that would have the greatest influence on the duration of the project.

CULVERT. A structure not classified as a bridge or storm sewer which provides an opening under a roadway or embankment, except that such term shall not include tiles crossing the road, or intakes thereto, where such tiles are part of a tile line or system designed to aid subsurface drainage.

1.03 DEFINITIONS AND TERMS (Continued)

DEPARTMENT OF TRANSPORTATION, (THE DEPARTMENT). The Department of Transportation, as defined in Iowa Code Chapter 307.

EMPLOYEE. Any person working on the project mentioned in the contract of which these specifications are a part, and who is under the direction or control, or receives compensation from, the Contractor or subcontractor.

ENGINEER. For publicly owned projects, the Engineer is a Professional Engineer licensed in the State of Iowa and is the authorized representative of the Contracting Authority. For privately contracted projects, with improvements that are to become publicly owned, the Engineer is the Professional Engineer licensed in the State of Iowa and is the authorized representative of the Jurisdiction ultimately accepting ownership of the improvement. For all other projects, the Engineer is the Professional Engineer licensed in the State of Iowa and is the owner's authorized representative. The Engineer may act directly or through duly authorized representatives.

EQUIPMENT. All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

EXTRA WORK. Work not provided for in the contract, as awarded, but deemed essential to the satisfactory completion of the contract and authorized by the Engineer. Extra work shall not include additional materials, equipment, and labor used due to natural variations in surface and subsurface conditions, except as specifically provided for elsewhere in the contract documents.

GENERAL SUPPLEMENTAL SPECIFICATIONS. Specifications approved by the Board of Directors for the Iowa SUDAS Corporation subsequent to publication of the latest edition of the SUDAS Standard Specifications. They involve changes in the SUDAS Standard Specifications and apply only when specified in the contract documents.

GOVERNMENTAL ENTITY. As defined in Iowa Code Chapter 26.

IMPROVEMENT. Shall mean any public improvements as defined in Iowa Code Chapter 26 and shall also include highway, bridge, or culvert projects.

INCIDENTAL ITEMS. Materials, equipment, or labor essential for the proper completion of the work that are not specified as bid items in the contract documents and the cost of which shall be included in other bid items.

INSPECTOR. The authorized representative of the Engineer assigned to make a detailed inspection of any or all portions of the work, or materials.

IOWA DEPARTMENT OF TRANSPORTATION (DOT) STANDARD SPECIFICATIONS. The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction and the General Supplemental Specifications effective at the date of publication of the Notice to Bidders unless a different effective date is identified in the contract documents.

JOINT VENTURE. The joining of two or more contractors for the purpose of combining equipment, personnel, and finances in order to submit a bid on a single project.

JURISDICTION. A governmental entity or the Iowa Department of Transportation, acting through its governing body, or through the authorized representatives of such governing body when so authorized.

JURISDICTIONAL ENGINEER. See Engineer.

1.03 DEFINITIONS AND TERMS (Continued)

LABORATORY. The testing laboratory of the Jurisdiction, or any other testing laboratory which may be designated by the Engineer.

LIQUIDATED DAMAGES. The dollar amount established by the Contracting Authority and set forth in the contract documents as compensation for the damage to the Contracting Authority, or public, for delay in completion of the work, to be paid to the Contracting Authority, or to be deducted from any payments due or to become due the Contractor.

LUMP SUM. Unit of measurement for a bid item where no direct measurement will be made. The bid item amount is complete payment for all work described in the contract documents and necessary to complete the work for that item. The estimated quantities of lump sum work shown in the contract documents are approximate.

MAPLE. Iowa DOT's materials approved product list enterprise. MAPLE contains a searchable database of most of the approved products, sources, producers, and suppliers of materials for Iowa highway projects. MAPLE may be searched by the brand/product name, producer, Iowa DOT Materials Instructional Memorandum (IM) number, or material name. New approvals are continually added as Iowa DOT approves them for use.

MATERIALS. Any substances specified for the use in the construction of the project and its appurtenances.

MATERIALS INSTRUCTIONAL MEMORANDUM (MATERIALS I.M.). This is an instruction prepared by the Iowa DOT's Construction and Materials Bureau. These may identify approved sources of various qualities or types of materials, sampling, testing, and approval procedures, and conditions for acceptance and use.

MEDIAN. The portion of a divided roadway separating the traveled ways for traffic.

MOBILIZATION. Mobilization shall consist of preparatory work and operations for all items under the contract, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site, and for the establishment of all offices, buildings, and other facilities, which must be performed or costs incurred prior to beginning work on the various items on the project site.

NOTICE OF PUBLIC HEARING. The public announcement or publication by the governmental entity, as required under Iowa Code Chapter 26, notifying the public of the time and place where any interested person may appear and file objections to the proposed plans, specifications, contract, or estimated cost of the improvement.

NOTICE TO BIDDERS. The public announcement, publication, or solicitation by the Contracting Authority, inviting bids for work to be performed or materials to be furnished as required by Iowa Code Chapter 26.

NOTICE TO PROCEED. A written notice to the Contractor issued by the Engineer stating the date, on or before which, the Contractor is to begin the work. The date set forth in this notice shall be considered as the official starting date.

PERFORMANCE, PAYMENT, AND MAINTENANCE BOND. The bond submitted by the designated low bidder, in the amount specified in the contract documents, for the faithful performance of the contract and the terms and conditions therein contained, for payment for all labor and materials provided, and for maintenance of improvements in good repair for the specified number of years from the time of acceptance of the improvements by the Jurisdiction.

1.03 DEFINITIONS AND TERMS (Continued)

PLANS. Plans are the official drawings, standard plans, profiles, typical cross-sections, and supplemental drawings or reproductions thereof, approved and furnished by the Jurisdiction, which show the location, character, dimensions, and details of the work. All such documents are to be considered as a part of the plans whether attached to the plans or separate.

PROFILE GRADE. The trace of a vertical plan intersecting the top surface of the proposed wearing surface, usually along the longitudinal center line of the roadbed. Profile grade means either elevation or gradient or such trace, according to the context.

PROJECT AREA. The area of the specified project limits shown on the plans, and any additional area which is necessary for the Contractor to place traffic control devices required by the contract documents or necessary to protect the work.

PROPOSAL. The proposal is a properly signed and guaranteed written offer of the bidder containing the bid amount to perform the work. Proposal is the same as Bid.

PROPOSAL FORM. A form provided by the Jurisdiction, to the bidder, containing a listing of the bid items and quantities, and locations to enter unit prices and the bid amount.

PROWAG. The July 26, 2011 "Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way" was written by the US Access Board and is also known as the Public Right-of-Way Accessibility Guidelines or PROWAG.

RESIDENT BIDDER. A person or entity authorized to transact business in this state and having a place of business for transacting business within the state at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. If another state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

RESPONSIVE, RESPONSIBLE BID. A bid submitted in accordance with the Notice to Bidders by a bidder that acknowledged all addenda, that responded to all proposal requirements, and that agreed to do everything required by the plans and specifications and other bid documents without any conditions, qualifications, or exclusions.

A bid submitted by a bidder that is capable of performing the work, possess the necessary financial and technical capability to perform the work, as well as the ability to complete the work in a timely and acceptable manner as demonstrated by past performance or other appropriate considerations, including but not limited to the ability to obtain and maintain insurance and bonding requirements.

RESPONSIVE, RESPONSIBLE BIDDER. A bidder that has submitted a bid that has been determined by the governmental entity to be both responsive and responsible.

RIGHT-OF-WAY. The land area of which the right to possession is secured or reserved by the Jurisdiction for the project, including permanent roadway easements.

ROAD. See Street.

ROADBED. The area of the roadway between the tops of foreslopes.

ROADWAY. The portion of the right-of-way designated or ordinarily used for vehicular travel.

SHOP DRAWINGS. Information and details for materials, products, or equipment to be supplied for the project, which are typically delivered to the project in an assembled or ready-to-use condition.

1.03 DEFINITIONS AND TERMS (Continued)

SHOULDER. That portion of the roadbed contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

SIDEWALK. That portion of the street primarily constructed for the use of pedestrians.

SLOPE. The inclination of a line or surface expressed as a ratio of horizontal distance to vertical distance.

SPECIAL PROVISIONS. Additions and revisions to the SUDAS Standard, General, and Supplemental Specifications covering conditions peculiar to an individual project. They only apply to a project when specified in the contract documents.

SPECIALTY ITEMS. Portions of work designated in the contract documents requiring equipment, skills, or crafts not ordinarily associated with the expertise of the Contractor or the major types of work covered by the contract; typically including, but not limited to, earthwork for building construction, electrical, mechanical, masonry, roofing, drywalling, floor covering, glass and glazing, painting, conveying systems, etc.

SPECIFICATIONS. The general term comprising all the written directions, provisions, and requirements including the SUDAS Standard Specifications and those added or adopted as Supplemental Specifications or Special Provisions all of which are necessary for the proper performance of the contract.

SPEED LIMIT. Refers to the legally established speed limit before construction and not the advisory speed during construction.

STANDARD ROAD PLAN. The Iowa Department of Transportation's manual of detailed drawings showing standardized design features, construction methods, and approved materials.

STATE. The State of Iowa acting through its authorized representatives.

STATION. One hundred linear feet.

STREET. A general term denoting public way for vehicular travel, including the entire area within the right-of-way.

SUBBASE. The layer or layers of specified or selected material of designed thickness upon which a base course or pavement is constructed.

SUBCONTRACTOR. The subcontractor is any individual, firm, partnership, joint venture, corporation, or association to whom the Contractor, with the written consent of the Jurisdiction, sublets a part of the work.

SUBGRADE. The top surfaced of a roadbed upon which the pavement structure and shoulders are constructed.

SUDAS STANDARD SPECIFICATIONS. The requirements contained herein applying to the contract, and pertaining to the method and manner of performing the work, or to the quantity and quality of the materials to be furnished under the contract. Previously referred to as the Iowa Statewide Urban Standard Specifications for Public Improvements.

SUPERINTENDENT. The Contractor's authorized representative in responsible charge of the work.

SUPPLEMENTAL CONTRACT (AGREEMENT). Written agreement between the Contractor and Contracting Authority modifying the original contract pursuant to the Iowa Code.

1.03 DEFINITIONS AND TERMS (Continued)

SUPPLEMENTAL SPECIFICATIONS. Specifications adopted by a Jurisdiction that involve changes to the SUDAS Standard Specifications. They only apply to a project when specified in the contract documents.

SURETY. The corporation, partnership, or individual, other than the Contractor, executing a bond furnished by the Contractor.

TARGET VALUE. When a target or target value is specified, a continuous and determined effort is expected to reach and maintain that value, as a goal.

UNAUTHORIZED WORK. Unauthorized work is work done contrary to, in addition to, or regardless of, the contract documents, or the instruction of the Engineer; work done without lines, grade, and/or cross-section stakes and grades shown on the plans or as given by the Engineer; or work done in deviation from the contract documents without written authority.

UTILITY. Includes all privately, publicly, municipally, or co-operatively owned structures and systems for supplying water, sewer, electric lights, street lights and traffic lights, gas, power, telegraph, telephone, communications, transit, pipelines, and the like.

UTILITY AGENCY. Means and includes (1) all franchised utilities having utility system facilities within the Jurisdiction, including but not limited to gas, electric, telephone, cable television, and communications; (2) communications systems licensed by the Jurisdiction; and (3) all governmental agencies owning or operating governmental utility systems, including but not limited to water, sewer, traffic control, and communications.

WORK. The work shall mean the furnishing of all labor, materials, equipment, and other incidentals necessary for construction of the improvement, successful completion of the contract, and the carrying out of all duties and obligations imposed by the Contract, including the submission of all necessary paperwork relating to payrolls, sales tax, warranties, owner's manuals, maintenance manuals, and the like.

WORKING DAY. Any calendar day, exclusive of Saturdays, Sundays, or a recognized legal holiday, on which weather or other conditions (not under control of the Contractor) will permit construction operations to proceed for not less than 3/4 of a normal work day in the performance of a controlling item of work.

END OF SECTION

PROPOSAL REQUIREMENTS AND CONDITIONS**1.01 QUALIFICATION OF THE BIDDERS**

- A. The Jurisdiction reserves the right to reject any bid that is not responsive to the proposal form or contract documents, or not submitted by a responsive, responsible bidder.
- B. Upon request of the Engineer, the apparent lowest responsive bidder, whose bid is under consideration for award of a contract, shall submit evidence of its financial resources, construction experience, and organization available for performance of the proposed work. A bidder's ability to promptly secure the required bonds and insurance coverages for the proposed work, as well as the bidder's demonstrated ability to continuously maintain insurance coverages on past projects, may be considered an indication of financial responsibility and the bidder's qualification as a responsive, responsible bidder.

1.02 CONTENTS OF THE PROPOSAL FORMS

- A. Each prospective bidder will be furnished with a proposal form showing the location and description of the proposed work, the approximate quantities of work to be performed for which bid prices are requested, and the completion provisions. The contract documents will contain any special provisions that shall apply to the work to be performed.
- B. The purpose of the contract documents is to require the furnishing of highest quality equipment, material, and workmanship, and best accepted construction practice. The Bidder is expected to base its bid on materials and equipment complying fully with the contract documents. Each bidder, in submitting its bid, acknowledges its willingness to comply with the terms of these contract documents.

1.03 QUANTITIES AND UNIT PRICES

- A. Bidders shall submit a lump sum bid or unit bid price, as required by the proposal for the work covered by the contract documents. Prices shall cover complete work and include all costs incidental thereto.
- 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. 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.
- C. The proposal may have a lump sum item for mobilization. The bidder will indicate its bid price in dollars, and this will be the contract price for mobilization.
- D. Materials, equipment, or labor essential for the proper completion of the work that are not specified as bid items in the contract documents and are incidental, and the cost of which shall be included in other bid items.

1.04 EXAMINATION OF THE CONTRACT DOCUMENTS AND SITE OF WORK

- A. By submission of a proposal on the work, the bidder represents that it has carefully examined the site of the proposed work; the plans, specifications, and all other contract documents; and that the bidder is fully informed concerning the requirements of the contract, the physical conditions to be encountered in the work, and the character, quality, and the quantity of work to be performed, as well as materials to be furnished. The Contractor will not be entitled to additional compensation if it subsequently finds that conditions require methods or equipment other than that anticipated by the Contractor in making its proposal, except as provided in [Section 1040, 1.09 - Changed Site Conditions](#).
- B. The attention of the bidder is directed to the fact that contracts for work, other than the proposed work, may have been awarded or may be awarded in the future. Completion of the proposed work may be contingent upon certain work by others or covered by other contracts being performed on the project in advance of this work; likewise, completion of work by others or covered by other contracts may be dependent upon completion of the proposed work. The bidder is expected to become familiar with work already in progress or previously let on this project, the contract periods, the progress being made, and any other conditions regarding work that may affect the bid or the bidder's performance under this contract.
- C. The bidder on this work acknowledges the facts set out in the proceeding paragraph and agrees it is in the public interest to have the work of other contracts and agencies performed concurrently rather than consecutively. The bidder further agrees to cooperate and coordinate the work with other contractors or agencies to the mutual interest of all parties doing work on the project.
- D. By the submission of a bid on this work, the bidder acknowledges and agrees investigation and inquiry has been made regarding the contracts for work with which this work must be coordinated. In the event disputes arise between contractors or other agencies doing work on the project as to their mutual rights or obligations, the Engineer will define the rights of all interested parties regarding the work.
- E. The Jurisdiction does not warrant, impliedly or explicitly, the nature of the work, the conditions that will be encountered by the bidder, the adequacy of the contract documents for the Contractor to perform the work, or the conditions or structures to be encountered under any surface. Any such data supplied on the plans or other contract documents, or interpretation thereof by the Engineer, are merely for the convenience of the prospective bidders, who are to rely upon their own explorations of latent or subsurface site conditions, before completing and filing their proposal, except as provided in [Section 1040, 1.09 - Changed Site Conditions](#).

1.05 INTERPRETATION OF THE CONTRACT DOCUMENTS

If any prospective bidder is in doubt as to the true meaning of any parts of the contract documents, the bidder may request an interpretation from the Engineer. Any interpretation of the contract documents will be made only by an addendum duly mailed or delivered to each prospective bidder who received, or in the future requests, contract documents from the Jurisdiction.

1.06 ADDENDUM

Each bidder will receive a notice of addendum for any changes in the contract documents made prior to the time established for the receipt of bids. The notice will be delivered in the manner chosen by the Jurisdiction to the bidder's business address with an acknowledgement of receipt required. Acknowledgement of the receipt of the addendum will be as provided in the proposal form.

1.07 PREFERENCE FOR LABOR AND MATERIALS

- A. 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 Code Chapter 73.
- B. Such preferences will not be given where funding requirements, federal or otherwise, prohibit the giving of such preferences.

1.08 TAXES

A. Sales Tax Exemption Certificate: The Jurisdiction, as a designated exempt entity awarding construction contracts, will issue Sales Tax Exemption Certificates to contractors and subcontractors allowing them to purchase, or withdraw from inventory, materials for the contract free from sales tax pursuant to Iowa Code Sections 423.2 and 423.45 and Iowa Administrative Code rule 701-219(423). This Sales Tax Exemption Certificate may also allow a manufacturer of building materials to consume materials in the performance of a construction contract without owing tax on the fabricated cost of those materials.

- 1. Upon award of contract, the Jurisdiction will register the contract, Contractor, and each subcontractor with the Iowa Department of Revenue and Finance; and distribute Sales Tax Exemption Certificates and authorization letters to the Contractor and each subcontractor duly approved by the Jurisdiction according to [Section 1080, 1.01 - Subletting or Assignment of Contract](#). These documents allow the Contractor and subcontractors to purchase materials for the contract free from sales tax. The Contractor and subcontractors may make copies of the Sales Tax Exemption Certificate and provide a copy to each supplier providing construction material. These Sales Tax Exemption Certificates and authorization letters are applicable only for the work under the contract.
- 2. At the time the Contractor requests permission to sublet according to [Section 1080, 1.01 - Subletting or Assignment of Contract](#), the Contractor shall provide a listing to the Jurisdiction identifying all subcontractors. For each subcontractor, include the Federal Employee Identification Number (FEIN), contact information, the name of a representative for the organization, a description of the work to be sublet, and the associated cost.
- 3. The Contractor and each subcontractor shall comply with said Iowa Code sales tax requirements, shall keep records identifying the materials and supplies purchased and verify they were used on the contract, and shall pay tax on any materials purchased tax-free and not used on the contract.

B. Alternate Sales and Use Tax: If the Jurisdiction, at its option, decides to utilize the sales and use tax option, it will so state by special provision and publication in the Notice of Hearing and Letting.

- 1. The bidders shall include in their proposals all amounts payable by the Contractor for taxes imposed by any taxing authority on the sale, purchase, or use of materials and equipment covered by the contract documents. All taxes of the foregoing description shall be paid by the Contractor.

1.08 TAXES (Continued)

2. After delivery of materials and equipment, the Contractor shall submit to the Jurisdiction a statement (on a current Iowa Department of Revenue form) of all taxes of the foregoing description paid on materials and equipment incorporated in the complete construction. If a Sales Tax Exemption Certificate is issued by the Jurisdiction according to [Section 1020, 1.08, A](#), no statement is required.
- C. Income Tax:** The bidder who is awarded the contract will be subject to payment of Iowa income tax on income from this work in amounts prescribed by law. If such bidder is a non-Iowa partnership, individual, or association, it shall furnish evidence, prior to execution of contract, that bond or securities have been posted with the State of Iowa Department of Revenue in the amount required by law and shall file a certificate issued by the Department, as provided in Iowa Code Section 422.17, releasing the Jurisdiction from withholding any and all sums required by the provision of Iowa Code Section 422.17.

1.09 PREPARATION OF THE PROPOSAL

- A. Proposal:** Proposals shall be legibly written in ink or typed on the forms provided by the Jurisdiction and shall be completely executed by the bidder with the requisite full signatures. The bidder must indicate in the proposal whether the proposal is submitted by an individual, partnership, joint venture, limited liability company, or a corporation. If the proposal is submitted by an artificial entity, it must be executed by an officer of such entity with authority to bind such bidder to perform the contract upon award. The business address of the bidder shall be typed or printed on the proposal. The Bidder Status Form is required by the Iowa Labor Commissioner, pursuant to Iowa Administrative Code rule 875-156.2(1). The bidder must complete the form and submit it with the proposal. 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. If the bidder does not qualify as a resident bidder, the non-resident bidder shall specify on the Bidder Status Form whether any preference to resident bidders, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country is in effect in the non-resident bidder's state or country of domicile at the time of a bid submittal.
- B. Unit Price Attachment:** The Engineer, at its option, may allow the bidder to submit a computer-generated attachment, hereinafter referred to as unit price attachment, in lieu of completing that portion of the proposal identifying the bid items, description, unit, quantity, and unit prices. If the Jurisdiction decides to allow this unit price attachment option, it will so state by special provision.
1. If a unit price attachment is submitted, it shall be attached to the proposal and shall include the following minimum information at the top of each page: project title, letting date, bidder's company name.
 2. The unit price attachment shall have the same columns as the proposal; e.g. item number, description, unit, quantity, unit price, bid amount, etc. for each item. The bid item numbers and order on the unit price attachment shall follow that of the proposal.
 3. The total amount bid shall be entered below the last bid item on the unit price attachment.
 4. The unit price attachment page and print size shall be approximately the same as the proposal. Solid lines for separating the columns and lines need not be printed. Pages should be numbered by page number of the total pages (e.g. Page 1 of 4).
 5. The bidder's company name, as well as the authorized person signature, name, and title, shall be in ink and shall follow the total amount bid; and shall be the same person that signs the proposal.

1.09 PREPARATION OF THE PROPOSAL (Continued)

6. In case of discrepancy in the item number, description, unit, or quantity between the unit price attachment and the proposal, the proposal shall govern. The unit price shown on the unit price attachment shall govern.
 7. The bidder is solely responsible for the content, completeness, and accuracy of all the information contained in the unit price attachment. If the information in the unit price attachment is incomplete, the bid must be considered incomplete and be rejected.
 8. When evaluating and tabulating the bids, the Jurisdiction shall utilize only the unit price as shown on the unit price attachment, and the item number, description, unit, and quantity as shown on the proposal.
- C. The bidder, as a business organization, shall comply with the requirements of [Section 1070, 1.11 - Business Organization Requirements](#).
- 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 case of discrepancy, the unit price figures shall govern.

1.10 BIDDERS CERTIFICATION

By the submission of its proposal, the bidder certifies its bid is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation; the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; the bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and the bidder has not sought, by collusion or otherwise, to obtain for itself any advantage over any other bidder or over the Jurisdiction.

1.11 IRREGULAR AND NONRESPONSIVE PROPOSALS

- A. Proposals will be considered irregular and may be rejected for any unauthorized changes in the proposal form or for any of the following reasons:
1. If submitted on a form other than that furnished by the Jurisdiction, or if the form is altered or any part thereof is detached or missing;
 2. If the bidder submits an obviously unbalanced bid. An unbalanced bid shall be defined as a bid containing lump sum prices or unit bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs to complete that item;
 3. If the proposal does not contain a unit price for each pay item listed, except in the case of authorized alternate pay items; or
 4. If the bidder submits more than one proposal for the same work under the same or different names.
- B. Proposals will be considered nonresponsive and shall be rejected for any of the following reasons:
1. If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind that may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning;
 2. If the bidder adds any provisions reserving the right to accept or reject an award or to enter into contract pursuant to an award;

1.11 IRREGULAR AND NONRESPONSIVE PROPOSALS (Continued)

3. If a bid on one project is tied to a bid on any other project, except as specifically authorized on the proposal form by the Jurisdiction;
 4. If the bidder makes corrections or alterations to the unit prices it submits and such corrections or alterations are not initialed by the bidder. The Jurisdiction may require the bidder to identify any corrections or alteration so initialed;
 5. If the bidder makes any omission of prices on items shown on the proposal forms, or any addition in writing to the form of the bid, or any condition or limitation on its proposal.
- C. If the bidder notes a requirement in the contract documents it believes will require a conditioned or unsolicited alternate bid, it shall immediately notify the Engineer in writing identifying such requirement. If the Engineer finds that such a requirement does exist in the contract documents, the Jurisdiction will make corrections thereto by an addendum.
- D. Proposals will be evaluated by the Jurisdiction pursuant to the provisions of [Section 1030, 1.01 - Acceptance or Rejection of Proposals](#).

1.12 SUBMISSION OF THE PROPOSAL, IDENTITY OF BIDDER, AND BID SECURITY

- A. The proposal shall be sealed in an envelope, properly identified as the proposal with the project title and the name and address of the bidder, and deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see its proposal is delivered to the Jurisdiction prior to the time for opening bids, along with the appropriate bid security sealed 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. If the Jurisdiction provides envelopes for proposals and bid security, bidders shall be required to utilize such envelopes in the submission of their bids.
- B. A corporation, limited liability company, or limited partnership shall bid in the name under which it is registered with the Iowa Secretary of State. A partnership shall bid in the name under which it is registered with the County recorder. An individual operating under a trade name shall bid using the trade name registered with the County recorder if such registration is required. The bidder's exact name as registered, if required, shall appear as the "principal" on any bid bond and shall appear on any cashier's check or share draft submitted to fulfill the bid security requirement. A bidder's failure to satisfy these requirements may be grounds for rejection of the bidder's proposal.

1.13 WITHDRAWAL OR REVISION OF THE PROPOSAL PRIOR TO OPENING OF PROPOSALS

- A. A bidder may request, without prejudice, to withdraw its proposal after it has been deposited with the Jurisdiction, provided such request is made in writing to the Jurisdiction prior to the time set for receiving proposals.
- B. Modifications or corrections to proposals may be made on the withdrawn proposal, provided such modifications or corrections are initialed by the Bidder and are received by the Jurisdiction prior to the time set for receiving proposals. Modifications or corrections to a proposal will not be accepted if the modifications or corrections render the bid security inadequate or if not accompanied by sufficient additional bid security.
- C. If a bidder has requested in writing to withdraw its proposal, said bidder may submit a different proposal and bid security at that time or any time prior to the time set for receiving proposals.

1.14 OPENING OF PROPOSALS

At the time and place set forth in the notice to bidders, proposals will be opened and read aloud. Proposals will be rejected if not accompanied by a bid security submitted in a separate, marked envelope. Submittals that do not include acknowledgement of each addendum to the contract documents will be rejected, except in those instances, in the opinion of the Engineer, where the addendum not acknowledged by a bidder will have no effect on the bid amount. Bid openings will be open to the public.

1.15 LIMITATION ON WITHDRAWAL OF PROPOSALS AFTER OPENING OF PROPOSALS

- A. A bidder shall not withdraw its proposal for period of up to 60 calendar days after the date designated for opening of proposals, or such other period of time specified in the Notice. However, in those projects involving special assessments, and confirmation by the District Court, no bidder shall withdraw its proposal for a period of 30 calendar days after the confirmation of the assessments by the Court.
- B. In the event a bidder desires to withdraw its proposal, it shall make request therefore in writing to the Engineer stating the reasons for such withdrawal.
- C. If requested, the bid security of unsuccessful bidders shall be promptly returned as soon as the successful bidder is determined or within 30 days, whichever is sooner.

END OF SECTION

APPROVAL FOR AWARD AND AWARD OF CONTRACT**1.01 ACCEPTANCE OR REJECTION OF PROPOSALS**

- A. The Jurisdiction reserves the right to accept the proposal that, in its judgment, is the lowest responsive, responsible bid; to award the contract by sections, if so specified in special provisions; to reject any or all proposals; to reject irregular or nonresponsive proposals as defined in [Section 1020, 1.11 - Irregular and Nonresponsive Proposals](#); and to waive irregularities and/or technical deficiencies in the proposals to the extent allowed by law.
- B. An individual, firm, partnership, corporation, or any association under the same or different names shall not submit more than one proposal. When reasonable evidence exists that a bidder has submitted more than one proposal at any letting for the same work under the same or different names, said proposals may be rejected.
- C. Any or all proposals may be rejected if there is reason to believe collusion exists among bidders. Proposals received from participants in such collusion may not be considered for the same work if re-advertised.
- D. Proposals may be rejected if the apparent lowest responsive bidder has failed to promptly meet financial obligations undertaken in connection with other work under contract, or is in default on a previous contract, or has an unsatisfactory record of performance and cooperation on any such previous contract, or has failed to maintain satisfactory progress on work already under contract.
- E. In the event the bid specifies the use of materials, workmanship, methods, or equipment not in conformance with the contract documents, the bid will be rejected. In the event the bid was based on, but did not specify, the use of materials, workmanship, methods, or equipment not in conformance with the contract documents, the bidder will be held responsible for furnishing or using materials, workmanship, methods, and equipment in conformance with the contract documents at no change in the bid price.
- F. When a contract for a public improvement is to be awarded to the lowest responsible bidder, a resident bidder shall be allowed a preference as against a non-resident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state or foreign country in which the non-resident bidder is a resident. In the instance of a resident labor force preference, a non-resident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the non-resident bidder is a resident. Application of the preference against a non-resident bidder shall be in accordance with the information filed with the proposal on the Bidder Status Form.
- G. Promptly after the proposals are opened and evaluated, the Jurisdiction shall give careful consideration to its needs, available funding, and other project considerations; and shall either designate the lowest responsive, responsible bidder and proceed with award of contract, or reject all bids and reconsider the project.

1.02 RELEASE OF BID SECURITY

- A. After the proposals are opened, verified, and duly considered, the Jurisdiction will promptly release the bid security of all except the lowest two bidders after the Jurisdiction's designation of the lowest responsive, responsible bidder. The bid security of the lowest two bidders will be promptly released after the Jurisdiction's approval of the contract executed by the lowest bidder. If all bids are rejected, all bid security will be promptly released.
- B. Bid security shall be released to bidders, either by making such bid security available for retrieval by bidders, or, if requested by a bidder, by mailing the bid security to the bidder.

1.03 AWARD OF CONTRACT

- A. **Contract Document Submittal:** Within 10 calendar days after notification by the Engineer, unless otherwise provided in the contract documents, the Contractor shall present the signed and executed contract documents, including contract, performance, payment, and maintenance bond; certificate of insurance; and all other items required by the contract documents. The performance, payment, and maintenance bond and insurance certificate shall meet the requirements of [Section 1070, Part 3 - Bonds and Insurance](#) as required by the Jurisdiction. The Jurisdiction will thereupon receive and file such documents and award the contract.
- B. **Deferred Award:** The Jurisdiction reserves the right to defer award of any contract for a period not to exceed 60 calendar days from the date of opening of proposals. No claims for compensable delay shall arise as the result of delay in the approval of award.
- C. **Failure to Execute the Contract:** It is agreed by the bidder that upon its failure to enter into the contract and furnish the necessary insurance certificate and performance, payment and maintenance bond within 10 calendar days after notification by the Jurisdiction, the amount of the bidder's bid security may at the Jurisdiction's option be forfeited and shall become the property of the Jurisdiction, to be retained not as a penalty, but as liquidated damages. The award of the contract may then, at the discretion of the Jurisdiction, be made to the next lowest responsive, responsible bidder, or the work may be re-advertised or may be constructed by the Jurisdiction in any legal manner.
- D. **Disclosure of Subcontractors:**
 - 1. The lowest responsive, responsible bidder shall be required to file a list of the names and subcontract amounts of all subcontractors who are expected to work on the project according to [Section 1080, 1.01 - Subletting or Assignment of Contract](#).
 - 2. If after award of the contract a subcontractor is replaced, or the subcontract price or the work under the subcontract is changed, the bidder shall disclose the name of the new subcontractor, the revised subcontract price, or the change in the scope of subcontract work.

If a new subcontractor is added after award of the contract, the Contractor shall disclose the name of the new subcontractor.

END OF SECTION

SCOPE OF WORK

1.01 INTENT OF THE CONTRACT DOCUMENTS

- A. These SUDAS Standard Specifications have been prepared to provide construction utilizing the best general practices and construction methods, utilizing first quality materials and work. The Contractor shall be responsible for providing or undertaking all work, labor, materials, equipment, tools, transportation, supplies, and activities included in these specifications, unless the responsibility for undertaking or providing same is specifically assigned to an identified party other than the Contractor.
- B. The intent of the contract documents is to provide for the construction and completion in every detail of the work described or as may be amended. The Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work according to the plans, specifications, and terms of the contract documents. The apparent silence or omission of the contract documents as to any detail shall be regarded as meaning only the best general practice is to prevail and only first quality materials and work are to be used.
- C. To prepare the plans, specifications, and contract documents, the Engineer may have performed exploratory work to gain information relative to surface and subsurface conditions. This information, when shown in the contract documents, represents a summary of conditions as of the date the survey was made; it is only an approximate estimation of the site conditions made for the Jurisdiction to identify construction conditions and quantities and classes of work. The appearance of this information in the contract documents will not constitute a guarantee conditions other than those indicated will not be encountered at the time of construction. The Contractor's bid shall be prepared based upon its examination of the site and its exploratory work.
- D. Before making whatever additional investigations it feels are advisable, a bidder should contact the Engineer to determine available project area. If the Jurisdiction has not obtained right-of-entry for such investigation, the bidder shall be responsible to secure right-of-entry to any parcels where the Jurisdiction has not previously obtained right-of-entry before doing any investigation work. The bidder shall also be responsible for any traffic control necessary for any investigation work. The bidder shall further be responsible to obtain prior utility locates necessary to conduct such investigations.

1.02 CORRELATION OF THE CONTRACT DOCUMENTS

The plans and specifications are intended to supplement each other so any work shown on the plans and not mentioned in the specifications, or vice versa, shall be as binding and shall be completed the same as if that work was mentioned or shown on both and to the true intent and meaning of said plans and specifications.

1.03 COORDINATION OF SPECIFICATIONS, PLANS, AND SPECIAL PROVISIONS

- A. In case of any discrepancy between the various items included in the contract documents, the items shall prevail, or govern, in the following descending order:
 - 1. Change Orders
 - 2. Addenda
 - 3. Proposal and Contract
 - 4. Special Provisions
 - 5. Plans, including plan notes

1.03 COORDINATION OF SPECIFICATIONS, PLANS, AND SPECIAL PROVISIONS (Continued)

6. Supplemental Specifications (Jurisdictional document)
7. General Supplemental Specifications (SUDAS)
8. SUDAS Standard Specifications

In case of a discrepancy within any contract document, the following shall prevail, or govern, in descending order: written text, numerals, drawings.

- B. The Contractor shall not take advantage of any apparent error or omission in the plans or specifications or of any discrepancy between the plans or specifications.

1.04 CONFORMITY WITH THE CONTRACT DOCUMENTS

- A. Reasonably Close Conformity:** All work performed and all materials furnished shall comply with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown in the contract documents. Where tolerances are not specified, work shall comply with reasonable and customary manufacturing and industry standards. The Engineer may, in the Engineer's sole discretion, accept variations beyond such requirements or tolerances where they will not materially affect the value or utility of the work and interests of the Jurisdiction.
- B. Defective Work:** Work not in reasonably close conformity with the contract documents, or requirements thereof that, in the sole discretion of the Engineer, has resulted in inferior or unsatisfactory work. Defective work shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.
- C. Deficient Work:** Work not in reasonably close conformity with the contract requirements but that, in the sole discretion of the Engineer, may be accepted and allowed to remain in place with a price adjustment and/or extended warranty period. In the event the Engineer agrees to accept deficient work with a price adjustment/extended warranty, the Engineer will document the basis of acceptance by contract modification making appropriate adjustments in the contract price for such work or materials.

1.05 PLANS

The final plans on file in the Jurisdiction show the location, typical construction details, and dimensions of the work contemplated. The work shall be performed in conformity therewith, except in case of error or unforeseen contingency.

Electronic support files, if available, will be provided prior to letting 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.

Electronic information shall not be considered a representation of actual conditions to be encountered during construction. Providing the Contractor this information does not relieve the Contractor from the responsibility of making an investigation of conditions to be encountered, including, but not limited to, site visits and basing the bid on information obtained from these investigations and professional interpretations and judgment. The Contractor assumes the risk of error if the information is used for any purposes for which the information was not intended. Assumptions the Contractor makes from this electronic information or manipulation of the electronic information is at their risk.

If changes are made during construction, regardless if the change is initiated by the Contracting Authority or Contractor, it shall be the Contractor's sole responsibility to update electronic files that they will use.

1.06 INCREASE OR DECREASE OF WORK

- A. The Jurisdiction reserves the right to make such alterations in the plans or in the quantities of work as may be considered necessary. Such alterations shall be in writing by the Engineer and shall not be considered as a waiver of any conditions of the contract documents or to invalidate any of the provisions thereof.
- B. Unless such alterations, increases, or decreases materially change the character of the work to be performed or the cost thereof, the altered work shall be paid for at the same unit prices as other parts of the work. Quantity changes amounting to 20% or less of the total bid for an item shall not affect the unit price of that item. If, however, the character of the work or the unit costs thereof are materially changed, due to unforeseen events, an allowance shall be made on such basis as may have been agreed to in advance of the performance of the work.
- C. Whenever materials have been delivered to the Contractor or to the work site and the bid item related to those materials is deleted, the Jurisdiction will determine one of the following:
 - 1. Pay invoiced cost for the materials, not to exceed 80% of the authorized amount for the bid item, plus 10% of the invoiced material cost as an overhead charge in addition to documented transportation costs to have the Contractor deliver the materials to the site designated by the Engineer

OR

 - 2. Pay the invoiced restocking fee (not to exceed 15% of the actual material cost), plus 10% of the restocking fee as an overhead charge, in addition to documented transportation costs incurred by the Contractor to return the materials.

1.07 CHANGE ORDERS

- A. **Oral Orders:** The Engineer shall have authority to give oral orders for minor or incidental changes in the work not involving extra cost and not inconsistent with the proposed purpose of the work.
- B. **Written Orders:** The Engineer may in his/her discretion, and subject to formal approval by the Jurisdiction, if required, issue written change orders changing the scope of the work and/or adjusting the amount to be paid to the Contractor for performing such work; however, the Engineer may, in case of emergency of endangering life or property, orally authorize such a change order without formal approval by the Jurisdiction. Each written change order for extra work shall be explicit in its instruction and shall be duly executed by the Jurisdiction. One copy of said change order shall be filed with the Contractor. Each change order shall stipulate the amount and method of payment.

1.08 SITE CONDITIONS

- A. The Contractor is required by [Section 1020, 1.04 - Examination of the Contract Documents and Site of Work](#) to make reasonable investigation and examination to determine latent and subsurface conditions at the site of the work prior to preparing its proposal. The Jurisdiction makes no guarantee of any conditions, latent or subsurface, at the site of the work. The Jurisdiction shall not be obligated to make any payments to the Contractor by reason of any latent or subsurface conditions.
- B. Failure of the Contractor in determining adverse site conditions prior to filing its proposal, or in any phase of its performance of the work, shall be grounds for refusal by the Jurisdiction to agree to pay for additional work by the contractor necessitated by such site conditions.

1.09 CHANGED SITE CONDITIONS**A. Latent or Subsurface Conditions:**

1. If the Contractor encounters latent or subsurface conditions differing materially from those indicated in the contract documents or from those ordinarily encountered in performing work of the character involved, and 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 unusual or changed conditions are considered by the Contractor as a basis for compensation in addition to the contract price, the Contractor shall promptly after discovery thereof notify the Engineer of its claim in writing. 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.
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 prompt written notice 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.

B. Compensation:

1. If the Engineer determines the condition could not reasonably have been discovered, the Contractor is entitled to additional compensation by reason of increased expense caused by the condition, and said condition requires work not contemplated by the contract, a change order will be executed by the parties providing for additional compensation for such amount as the parties may agree upon.
2. If the Engineer determines the condition to be such as to justify an extension in contract time, such additional time will be granted according to [Section 1040, 1.11 - Delays Caused by the Jurisdiction](#) and [Section 1080, 1.09 - Extension of Time](#).

1.10 DISPUTED CLAIMS FOR EXTRA COMPENSATION**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 herein, the Contractor shall notify the Engineer in writing of its intention to make claim for such extra compensation before beginning the work on which the claim is based. The Contractor shall not proceed with that work until the Contractor and the Jurisdiction have executed a change order with respect to extra compensation.
2. The Jurisdiction shall 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, only when such damages result from negligence on the part of the Jurisdiction, its Engineer, or any of its officers or employees.
3. In any case where the Contractor deems that extra compensation is due from the contracting authority as damages resulting from such performances, nonperformances, or delays, the Contractor shall notify the Engineer in writing at the time the delay occurs.

1.10 DISPUTED CLAIMS FOR EXTRA COMPENSATION (Continued)

4. In either case, if such notification is not given, or if after such 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 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.
 5. 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 claimant has available and shall be verified by affidavit of the claimant or other person having knowledge of the facts.
- B. Presentation and Consideration of Claim:** If the claimant wishes an opportunity to present its claim in person, the claim shall be accompanied by a written request to do so. Where the claimant asks an opportunity to present its claim in person, the Jurisdiction, within 30 calendar days of the filing of the claim, shall fix a time and place for a meeting between the claimant 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 claimant, 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 Arbitration:** In the event a Contractor's claim as outlined in the above procedure has been disallowed, in whole or in part, the Contractor may, within 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 arbitration. The Jurisdiction shall decide if the matter is subject to arbitration and shall, within 30 calendar days of the receipt of the request for arbitration, grant or deny the request for arbitration. The Jurisdiction's decision shall be final.
- D. Board of Arbitration:**
1. The board of arbitration shall consist of three persons - one to be appointed by the Jurisdiction, one to be appointed by the Contractor, and the third to be appointed by the two arbitrators thus chosen.
 2. The arbitrators selected shall be persons experienced and familiar with construction or engineering practices in the general type of work involved in the contract, but shall not have been a regular employee or an individual retained by either party at the time the claim arose, or at the time of arbitration.
- E. Arbitration Proceedings:** The board of arbitration shall make its own rules of procedure and shall have authority to examine records kept by the Jurisdiction and the Contractor. If the desired records are not produced within 10 calendar days after they are requested, the board of arbitration shall proceed without them as best it may. Notification of arbitration proceedings shall be made by the arbitration board to both the Jurisdiction and the Contractor, and each shall have the opportunity to attend all sessions of the arbitration board. In determining the findings or award or both, a majority vote of the board shall govern. Copies of the findings or award or both, signed by the arbitrators, shall be filed with the Jurisdiction and the Contractor. A unanimous report or majority report may be used. The board of arbitration shall fix the cost of the proceedings, including a reasonable compensation to the arbitrators, and shall determine how the total cost shall be borne by the parties.

1.10 DISPUTED CLAIMS FOR EXTRA COMPENSATION (Continued)

- F. Jurisdiction of Board of Arbitration:** The board of arbitration 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 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.
- G. Determination of Board of Arbitration Final:** The findings or award, or both, of the arbitration board, if acceptable to both parties to the contract, may become a basis for final payment. If the findings of the arbitration board are unacceptable to either party to the contract, said findings may become the basis for further negotiation between the parties. In the event a solution agreeable to both parties has not been reached through the filing of a claim, through arbitration, or if arbitration has been denied, either party may resort to whatever other methods for resolving the claim are available to it. The Contractor shall not initiate any suit against the Jurisdiction for the adjudication of any claim until said claim has been first presented to the Jurisdiction, pursuant to this article, and either submitted to arbitration or a request for arbitration is denied.

1.11 DELAYS CAUSED BY THE JURISDICTION

If the Jurisdiction or its agents should cause a delay in any part of the work or in the final completion of the job, this fact shall not make void the provisions of the contract as to liquidated damages; but the Contractor will promptly be given such extension of time for the final completion of the job as the Jurisdiction may deem proper to compensate the Contractor for such delay.

1.12 ORAL AGREEMENTS, CONVERSATIONS, AND INFORMAL COMMUNICATIONS

No oral agreement or conversation made or had with any officer, agent, or employee of the Jurisdiction, and no informal written communication from any officer, agent, or employee of the Jurisdiction, occurring either before or after execution of the contract, shall affect or modify any of the terms or obligations contained in any of the contract documents. Such oral contact and such informal writings shall be considered as unofficial information and in no way binding upon the Jurisdiction.

1.13 ERRORS OR OMISSIONS

The Contractor shall examine the plans before beginning construction work. If errors or omissions are discovered in the plans, the Contractor shall call them to the attention of the Engineer before proceeding with the work. In no case shall the Contractor make the corrections therefore without written permission from the Jurisdiction. In case revised plans of a supplementary or explanatory nature are necessary or desirable for clarification, or to correct any errors or omissions, they will be furnished by the Jurisdiction from time to time as the work progresses.

END OF SECTION

CONTROL OF WORK**1.01 AUTHORITY OF THE ENGINEER**

- A. The work included in the contract is to be done to the complete satisfaction of the Engineer, and the decision of the Engineer as to the true construction and meaning of the contract documents, plans, specifications, estimates, and as to all questions arising as to proper performance of the work, shall be final, except as provided in [Section 1040, 1.10 - Disputed Claims for Extra Compensation](#).
- B. The Engineer shall determine the unit quantities and the classification of all work done and materials furnished under the provisions of the contract documents, and the Engineer's determination thereof shall be final except as provided in [Section 1040, 1.10 - Disputed Claims for Extra Compensation](#).
- C. The Engineer shall decide any and all questions that may arise regarding the quality or acceptability of materials furnished and work performed, the rate of progress of the work, including cleanup and restoration, acceptable fulfillment and performance of the contract on the part of the Contractor, and compensation. The decision of the Engineer in such matters shall be final except as provided in [Section 1040, 1.10 - Disputed Claims for Extra Compensation](#).
- D. Nothing contained in this section or in the contract documents shall be construed as requiring or permitting the Engineer to direct the means, methods, sequences, or procedures, including safety measures, of performing any work under the contract or contract documents, except to ensure the quality of work conforms to these specifications and other provisions of the contract documents and the contract will be completed as scheduled.

1.02 AUTHORITY AND DUTIES OF THE ENGINEER'S AUTHORIZED REPRESENTATIVE

- A. The Engineer may appoint a representative to monitor any or all materials used and work done. Such observation may extend to any or all parts of the work and to the preparation or manufacture of the materials to be used. The Engineer's authorized representative will not be authorized to revoke, alter, enlarge, or relax the provisions of these specifications. When placed on the work, the Engineer's authorized representative will keep the Engineer informed as to the progress and quality of the work and the manner in which it is being done.
- B. Results of tests and examinations may be available to the Contractor on an informational basis. Absence or presence of representative test data does not alter the Contractor's responsibility for compliance with the contract documents. The Engineer's authorized representative will call to the attention of the Contractor any lack of compliance with the contract documents. However, failure of the Engineer's authorized representative or the Engineer to call the attention of the Contractor to faulty work or to lack of compliance with the contract documents shall not constitute acceptance of such work.
- C. The Engineer's authorized representative will not be authorized to approve or accept any portion of the work or to issue instructions contrary to the contract documents. The Engineer's authorized representative will act under the authority of the Engineer to reject defective work or material, and to suspend any work that is not being properly performed, subject to the final decision of the Engineer.
- D. The Engineer's authorized representative will not act as supervisor or perform other duties for the Contractor, nor improperly interfere with management of the work. The Engineer's authorized representative will exercise such additional authority as may, from time to time, be delegated by the Engineer.

1.03 COOPERATION BY THE CONTRACTOR

- A. A set of approved plans, specifications, contract documents, and any special provisions and authorized alterations will be supplied to the Contractor, and the Contractor shall have them available on the job site at all times.
- B. A competent, authorized representative of the Contractor shall be present on the site of the work continually during its progress. This representative must be capable of reading and thoroughly understanding the contract documents and experienced in the type of work being performed. This representative shall supervise, direct, and control the Contractor's operations, personnel, and work, and oversee the Subcontractor's operations.
- C. The Contractor shall give the Engineer written notification of the name of the Superintendent. The Contractor or its Superintendent shall receive from the Engineer all explanations and directions necessary for the satisfactory prosecution and completion of the work.
- D. The Contractor shall not cause any unnecessary delay or hindrance to other contractors on the work and shall be required to cooperate with other contractors to the fullest extent.

1.04 COOPERATION WITH OTHER CONTRACTORS

- A. The Jurisdiction reserves the right to award other contracts in connection with this work and the total improvement. The Contractor is required to become fully informed of the conditions relating to construction and labor under which the work will be or is now being performed, and the Contractor shall employ, as far as possible, such methods and means in the carrying out of its work as will not cause any interruption or interference with any other contractor or agency. The Contractor shall give other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly integrate, incorporate, and/or coordinate its work with theirs.
- B. If any part of the Contractor's work depends for proper execution or results on the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defect in such work by another contractor that renders it unsuitable for such proper execution and results. The Contractor's failure to inspect and report such defects shall constitute an acceptance of the other contractor's work as fit and proper for the integration or incorporation of its work, except as to defects that may develop in the other contractor's work after the execution of the Contractor's work.
- C. Wherever work being done by the Jurisdiction's forces or by other contractors is contiguous to work covered by the contract, the respective rights of the various interests involved shall be established by the Engineer, in order to secure the completion of the various portions of the work in general harmony.
- D. Unless otherwise specified in the contract documents, the Contractor shall give notice, as hereafter provided, to all utilities, public and private agencies, abutting property owners, and all others affected by its operations as to time for starting and for completion of its work, names of streets or locations of alleys closed, schedule of operations, and routes of detours where possible. Notification shall be made sufficiently ahead of time to provide proper re-routing of traffic and erecting of signs before the work is to begin.
- E. The Contractor shall properly coordinate and expedite its work in such a manner as to cause the least amount of conflict and interference between its operation and those of all others affected by its operations. Any or all damages or claims resulting from the improper or insufficient notification of all others affected by its operations shall be the responsibility of the Contractor.

1.05 SHOP DRAWINGS, CERTIFICATES, AND EQUIPMENT LISTS**A. Submission of Drawings:**

1. The Contractor shall submit to the Engineer all shop drawings and equipment drawings or lists as called for in the contract documents or as requested by the Engineer. Drawings and listings shall be complete and shall contain all required detail information conveyed according to the latest recommended standards for detailing.
2. The Contractor shall make any corrections required by the Engineer and submit the revised shop or equipment drawings or listings for review. After review by the Engineer, the shop or equipment drawings or listings will be so marked, dated, signed by the Engineer, and forwarded to the Contractor for reproduction and distribution.

B. Submission of Equipment Lists:

1. If requested in the contract documents, as soon as practicable after award of contract and before any items of material or equipment are purchased, the Contractor shall submit to the Engineer for review a complete list of the principal fixtures and equipment to be incorporated into the work.
2. The Contractor shall also submit applicable brochures, technical data, catalogs, cuts, diagrams, manufacturer's drawings and installation instructions, samples if required, and other descriptive data including the complete description, trade name, model number, type, size, and rating.

C. Engineer's Review:

1. Review by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detail is satisfactory. The Engineer assumes no responsibility for errors in dimensions in the shop drawings and assumes the Contractor will use material complying with requirements of the contract documents or, where not specified, those of sound and reasonable quality, and will erect the subjects of such shop drawings according to recognized standards of first quality work or, when specified, according to standards of the contract documents.
2. Any work done or material ordered by the Contractor prior to review by the Engineer shall be at the Contractor's risk.

1.06 CONFLICT AVOIDANCE

- A. Expose possible conflicts, such as utility lines and drainage structures. Verify elevations of each and verify clearances for proposed construction.
- B. Complete elements of the work that can affect line and grade in advance of other open cut construction unless noted on the plans.
- C. See [Section 1040, 1.09 - Changed Site Conditions](#) if unknown or changed conditions are encountered.

1.07 EXAMINATION OF MATERIALS AND WORK

- A. The Contractor shall furnish the Engineer and its agents every reasonable opportunity to ascertain whether the work and materials are in reasonably close conformity with the contract documents. At any time before final acceptance of the work, at the request of the Engineer, the Contractor shall remove or uncover portions of the work for examination. After examination, the Contractor shall restore such portions of the work to the standards required by the contract documents.

1.07 EXAMINATION OF MATERIALS AND WORK (Continued)

- B. Should the work thus exposed and examined prove acceptable, the uncovering, removing, and replacing of such work shall be paid for as specified in [Section 1090, 1.04 - Payment for Change Orders](#). Should the work thus exposed and examined prove unacceptable, the uncovering, removing, and replacing of such work shall be at the Contractor's expense.

1.08 REMOVAL OF DEFECTIVE WORK AND MATERIALS

- A. Defective work or materials may be condemned by the Engineer any time before the final acceptance of the work. Notice of such condemnation shall be given in writing by the Engineer. Such condemned work shall be immediately corrected to the satisfaction of the Engineer. Failure or neglect on the part of the Engineer to condemn unsatisfactory material or reject inferior workmanship shall not release the Contractor, nor shall it be construed as an acceptance of such work, nor shall the final acceptance of such work bar the Jurisdiction from recovering damages on account thereof.
- B. Any defective work shall be removed and replaced at the Contractor's expense. Should the Contractor fail or refuse to remove defective work when so ordered by the Engineer, the Engineer shall have authority to order the Contractor to suspend further operations, and may withhold payment on estimates until such defective work has been removed and replaced according to the contract documents.
- C. Continued failure or refusal on the part of the Contractor to correct defective work promptly shall be sufficient cause for the Jurisdiction to declare the contract in default. No compensation will be paid to Contractor for defective work or materials, or for the satisfactory removal, correction, or disposal thereof.

1.09 UNAUTHORIZED WORK

- A. Unauthorized work is work done contrary to the work shown in the contract documents. The Jurisdiction will not pay for unauthorized work.
- B. Unauthorized work may be ordered to be removed and replaced immediately at the Contractor's expense.

1.10 LINE AND GRADE STAKES

- A. Minimum standards for construction survey provided by the Jurisdiction will meet the requirements of [Section 11,010](#). The Engineer will set the necessary stakes promptly upon notification by the Contractor that stakes are needed.
- B. The work shall be performed in strict conformity with the contract documents and to the lines and grades as fixed by the Engineer, and shall be according to such instructions as may be given by the Engineer. When such stakes or lines are given by the Engineer, the Jurisdiction will be responsible for the correctness thereof, and the Contractor will be responsible for their proper use, interpretation, and preservation.
- C. The Contractor shall protect and preserve in their original position all stakes, points, or marks set for the work by the Engineer. Where the Engineer shall consider such stakes, points, or marks to have been unnecessarily altered or destroyed, the Engineer may cause the expense of correcting or replacing them to be charged to the Contractor and the amount of such costs deducted from any monies due or which may become due to the Contractor under the contract.

1.11 PROVIDING JOB SITE UTILITIES

- A. The Contractor shall make all necessary arrangements for the provision to the job site of all required utilities for the project. The Contractor shall arrange its work so it will not be delayed because such regulations or requirements relating to the use of utilities. All costs for the provision of utilities to the job site shall be borne by the Contractor.
- B. Fire hydrants shall not be used by the Contractor or its subcontractors unless authorization for such use has been obtained from the appropriate water utility agency.

1.12 SALVAGE

- A. When the contract documents specify salvage of materials for the Jurisdiction as part of the work, the material to be salvaged shall be carefully salvaged and delivered to the designated location in the best condition and ready for storage. When the contract documents provide for salvage of such materials by the Contractor, the Contractor shall salvage such materials and promptly remove them from the site.
- B. The Contractor shall not allow inspection or sale of salvage materials to third parties at the site without written approval of the Jurisdiction.

1.13 PROTECTION OF WATER QUALITY AND WETLANDS

- A. The Contractor shall comply with the requirements of the Clean Water Act (33 U.S.C. 1344 and 33 CFR 323) and Executive Order 11990. When it becomes necessary for the Contractor to work in waters of the United States, the Contractor shall be aware that a Section 404 permit may be required.
- B. When required, the Contracting Authority will obtain a Section 404 permit for essential work on the right-of-way prior to the award of the contract. The Contractor shall adhere to the requirements of the permit. Activities occurring in or across waters of the United States not specifically reviewed and approved in the permit are not authorized. If the Contractor desires to use construction methods that are not specifically approved by the permit, the Contractor shall be responsible for obtaining approval in the form of a new Section 404 permit from the U.S. Army Corps of Engineers and possibly Iowa DNR. The Contractor shall not use construction methods that require additional mitigation by the Contracting Authority. The Contractor will not be granted additional compensation or contract time due to their request for a new permit. If, however, due to no fault of the Contractor, a Section 404 permit modification involving activities within the right-of-way is deemed necessary by the Engineer, additional contract time and/or compensation may be considered.

1.14 FINAL INSPECTION AND ACCEPTANCE

- A. As soon as practicable after the completion of the work, it will be inspected thoroughly by the Engineer. The Contractor will be notified when the inspection is to be made so it or its representative may be present.
- B. If the inspection reveals any defects in the work as contemplated by the specifications, such defects shall be repaired or unsatisfactory work shall be replaced, as the Engineer may direct, before final acceptance. The cost of all such repairs and replacement shall be borne by the Contractor, and no extension of the contract time shall be granted because of the time required to remedy such defects.
- C. When the work is found to be satisfactory, it will be accepted as provided in [Section 1090.1.08 - Acceptance and Final Payment](#). Such final acceptance will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error.

1.15 ADDITIONAL CONTRACTOR RESPONSIBILITIES

If a form of automated machine guidance (AMG) is used for grading or paving operations, the following is required:

- A. At least one week prior to the preconstruction meeting, submit to the Engineer for review a written AMG work plan which indicates the following:
 - Equipment type
 - Control software manufacturer and version
 - Proposed location of GPS base station for broadcasting differential correction data to rover units
 - Proposed locations where AMG will be utilized
- B. Provide Engineer with up to 8 hours of formal training on Contractor's AMG systems.
- C. For grading contracts, provide a rover for use by the Engineer.
- D. Check and recalibrate, if necessary, the AMG system at the beginning of each work day.
- E. Contractor will bear all costs associated with use of the AMG system, including but not limited to reconstruction of work that may be incurred due to errors in application of the AMG system. Correction of grade elevation errors and any associated quantity adjustments resulting from the Contractor's activities are to be done at no cost to the Contracting Authority.

END OF SECTION

CONTROL OF MATERIALS**1.01 MATERIALS SOURCE OF SUPPLY AND QUALITY REQUIREMENTS**

- A. Materials used in the work shall meet all quality requirements of the contract documents. In order to expedite inspection and testing of materials, the Contractor shall notify the Engineer in writing of the proposed sources of those materials requested by the Engineer promptly after being awarded the contract. Any material shall be produced with a reasonably uniform quality and within requirements specified; the producer shall perform quality control tests and evaluations the producer believes necessary to control the product adequately. All materials for use in the project are subject to inspection and tests at any time prior to being incorporated into the work.
- B. For the convenience of the Contractor, and when convenient to the Engineer, materials may be inspected at the site of production. Materials tested and found in compliance at the site of production may be later inspected for reasonably close conformity and normally will not be rejected except for obvious mistakes, contamination, quality change, or mishandling. To avoid later rejection, materials that usually show an extreme change in character or quality prior to or during the process of incorporation into the work should be produced to more rigid limits than those required by the specifications.
- C. At the option of the Engineer, approval of the source, or approval of materials at the source prior to delivery, may be required. If it is found after trial that sources of supply for previously approved materials do not produce specified products or when conditions are such that use of unfit materials can not be prevented except by extraordinary inspection methods, the Contractor shall furnish materials from other sources. Before delivery, and at any time during the process of preparation and use, materials shall be subject to the approval of the Engineer.
- D. Materials not previously inspected will be inspected at the project site. Acceptance at that time will be based on sampling and testing, producer's certifications, visual inspection, or any combination of these at the discretion of the Engineer.
- E. Use of materials on the basis of the producer's certification, quality control tests, and evaluations may be permitted or required. The Engineer may require specific data obtained by qualified persons and procedures be provided with the material, when delivered. Certified gradation testing by a certified aggregate technician will be required for all aggregates to be furnished by the Contractor, and shall be done according to the current [Iowa DOT Materials I.M. 209](#).

1.02 ALTERNATE PROCESSES, EQUIPMENT, OR MATERIALS AND OTHER SUBSTITUTIONS

- A. **General:** In order to establish a basis of quality for the work, performance, or economy of operation, certain processes, types of machinery and equipment, or kind of material may be referenced in the contract documents by designating a manufacturer by name and referring to its brand or model numbers. Such reference is not intended to foreclose other processes, equipment or materials that will in the sole discretion of the Engineer meet, or exceed, the designated standards. There may be instances where the Engineer will not consider alternate processes, equipment, or materials.
- B. **Consideration:**
 - 1. The Jurisdiction may consider alternate processes, equipment, or materials for those specified in the contract documents; however, it is only an indication that the Jurisdiction will not foreclose consideration of the bidder's/contractor's request, and is not an approval. Following are the steps for consideration of alternate processes, equipment, or materials:

**1.02 ALTERNATE PROCESSES, EQUIPMENT, OR MATERIALS AND OTHER SUBSTITUTIONS
(Continued)**

- a. If a bidder/contractor desires to use alternate processes, equipment, or materials, the bidder/contractor shall contact the Engineer to confirm the Jurisdiction would consider alternate processes, equipment, or materials for those as specified in the contract documents.
 - b. Support/requirements for submissions of alternatives:
 - 1) The Engineer will consider and evaluate other products, equipment, methods, and systems only when such items are accompanied by full and complete technical data, test data, code compliance, and other relevant information, including samples and finishes where appropriate.
 - 2) The bidder/contractor shall submit design information, material compatibility, performance, durability, laboratory tests, chemical analysis, color, manufacturer's specifications, and other relevant information as proof of quality and integrity when presenting proposed alternatives to the Engineer for consideration. The bidder/contractor must include the kind, quality, design, and performance of the proposed materials and equipment.
 - 3) If alternate methods are proposed, the contractor shall furnish complete engineering plans covering the proposed change.
 - 4) It is the sole responsibility of the proposer of any alternative product to have pre-qualified the product proposed for its intended use for compliance with all applicable codes within the Jurisdiction prior to submittal to the Engineer for consideration.
 - c. In making an alternative request, the contractor shall be responsible for all costs including reimbursing the Engineer for services furnished and any time required to review the proposed change.
 - d. If the bidder/contractor desires to use alternate processes, equipment, or materials for those as specified in the contract documents, the bidder/contractor shall secure the written approval of the Engineer before entering an order therefore.
 - e. Proposed alternative processes, equipment, or materials that will in the sole discretion of the Engineer meet, or exceed, the designated standards will be given written approval to be used on the project as an "Approved Equal" or "Equivalent" to the specified item.
 - f. If approval as an "Approved Equal" or "Equivalent" is given by the Engineer, such approval will be on the condition that the bidder/contractor shall be fully responsible for producing construction work in reasonably close conformity with contract requirements.
 - g. In order to ensure fair competitive bidding, it is critical that all bidders base their bids on providing the material, equipment or process (including those trade named) fully complying with the contract documents.
 - h. The contractor shall not be entitled to any additional compensation if the Engineer does not approve the contractor's request for alternate processes, equipment, or materials after the contract is awarded. The bidder/contractor is solely at risk until the Engineer issues written notification of "Approved Equal" or "Equivalent."
 - i. The Jurisdiction reserves the right to adjust the contract price when the cost of an "Approved Equal" or "Equivalent" is less than the cost of the specified item. The contractor shall estimate the net savings of the proposed alternate and if the Engineer approves the proposal, a change order may be processed to reduce the contract amount by up to 50% of the estimated net savings of the "Approved Equal" or "Equivalent."
2. If the contract documents state that the Jurisdiction will not consider alternate processes, equipment, or materials, the bidder/contractor shall not propose any alternates to those specified in the contract documents.

1.03 SAMPLES AND TESTING

- A. Each consignment of material shall be tested or inspected before being incorporated into the work and shall be approved by the Engineer in charge of the work before it is used. The Contractor shall allow such facilities for collecting and forwarding samples and subsequent testing as the Engineer may require.
- B. Samples shall be supplied to allow ample time for testing without delaying the work. No material for which samples are requested shall be used until the samples have been approved. If necessary, work will be delayed or suspended, at no cost to the Jurisdiction, to permit the completion of all specified tests and examinations. Tests made on the samples of materials utilized for improvements constructed under these specifications will be made by the Jurisdiction at no cost to the Contractor.
- C. All tests shall be made by the Jurisdiction testing laboratory, or at such independent testing laboratories as the Engineer shall approve. Except as otherwise specified, the testing of materials furnished for use under these specifications shall be done according to the methods described in the specific ASTM, AASHTO, AWWA, or other authorized specifications for each material. Results of all tests shall be submitted to the Engineer.

1.04 STORAGE OF MATERIALS

The Contractor shall be responsible for care and storage of materials delivered to the work site or purchased for use. Material delivered to the work site and damaged before actual incorporation in the work may be rejected by the Engineer even though it may have been previously acceptable. Stored materials shall be located to facilitate thorough inspections, to minimize environmental damage, and not interfere with operations.

1.05 UNACCEPTABLE MATERIALS

All materials not conforming to the requirements of the specifications at the time they are to be used shall be considered unacceptable, and all such materials will be rejected and shall be removed immediately from the work site unless otherwise instructed by the Engineer. No rejected material, the defects of which have been corrected, shall be used until approval has been given by the Engineer.

1.06 MATERIALS SUPPLIED BY THE JURISDICTION

When any materials are to be furnished by the Jurisdiction, the designation of such materials and the time of availability will be included in the contract documents.

1.07 MATERIALS SUPPLIED BY THE CONTRACTOR

- A. Unless otherwise stated in the contract documents, all materials and equipment needed for, or to become a part of, the work shall be furnished by the Contractor. The Contractor shall assume full responsibility for ordering materials and equipment of the quality specified and of the quantity necessary, and shall be responsible for payment of the purchase and/or delivery cost of such materials and equipment.
- B. All materials and equipment that become the property of the Jurisdiction as a part of the project shall be unused and newly produced or manufactured with original materials (as opposed to recycled or used materials), shall be state of the art for that material or equipment, and shall be properly stored to protect the integrity of the material and equipment. The Engineer may waive this provision and accept used or recycled material or equipment prior to submission of the bid. Such waiver must be in the form of an addendum.

END OF SECTION

LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC**PART 1 - LEGAL RELATIONS****1.01 MUNICIPAL REGULATIONS, STATE, AND FEDERAL LAWS AND REGULATIONS**

- A. The Contractor shall at all times observe and comply with all applicable Federal, State, County, or City laws, ordinances, orders, and regulations.
- B. References in these specifications to particular chapters or sections of the Iowa Code shall be to those chapters or sections as they appear in the current version of the Iowa Code. In the event such chapters or sections of the Iowa Code are subsequently amended, the specifications shall be deemed to refer to those chapters or sections as amended.
- C. During the performance of this contract, the contractor (for itself), its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:
 1. Compliance with Regulations: The contractor shall comply with the Regulations relative to non-discrimination in Federally assisted programs of the DOT Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
 2. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, national origin, sex, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
 3. Solicitations for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to non-discrimination on the grounds of race, color, national origin, sex, age, or disability.
 4. Information and Reports: The contractor shall provide all information and reports required by the Regulations or directives issued pursuant there to, and shall allow access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Contracting Authority, the Iowa DOT, or FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the Contracting Authority, the Iowa DOT, or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.
 5. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Contracting Authority, the Iowa DOT, or the FHWA shall impose such contract sanctions as they may determine to be appropriate, including, but not limited to:
 - a. Withholding of payments to the contractor under the contract until the contractor complies, and/or
 - b. Cancellation, termination, or suspension of the contract, in whole or in part.

**1.01 MUNICIPAL REGULATIONS, STATE, AND FEDERAL LAWS AND REGULATIONS
(Continued)**

6. Incorporation of Provisions: The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Contracting Authority, the Iowa DOT, or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Contracting Authority or the Iowa DOT to enter into such litigation to protect the interests of the Contracting Authority or the Iowa DOT; and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

1.02 GOVERNING LAW

The law of the State of Iowa shall govern this contract and all subcontracts for materials and services entered into by the Contractor.

1.03 PERMITS AND LICENSES

The Contractor shall procure all necessary permits 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 cost for all required Jurisdictional permits and licenses will be waived by the Jurisdiction. 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.

1.04 PATENTS AND ROYALTIES

The Contractor shall defend, indemnify, and save the Jurisdiction harmless against all claims arising from alleged infringements of patents and royalties covering tools, machinery, processes, appliances, devices, or materials used in connection with the work. Unit prices provided in the proposal shall include payment of all necessary royalties or licenses.

1.05 USE AND OCCUPANCY PRIOR TO COMPLETION OF CONTRACT

The Contractor shall complete any portion or portions of the work in such order and at such time as the Engineer may require. The Jurisdiction shall have the right to use any completed or partially completed portions of the work at any time, but such possession and use shall not be deemed an acceptance of the work so used or any part thereof. If such prior use increases the cost of or delays the work, the Contractor shall be entitled to such extra compensation or extension of time, or both, as the Engineer may determine appropriate. When improvements are released to the Jurisdiction for public use prior to final approval and acceptance, the Contractor will be relieved of the responsibility for damages due to the elements or due to ordinary public use, but only the released and used portion of the improvements. Such release by the Contractor to the Jurisdiction for public use shall be directed in writing by the Engineer.

1.06 CONTRACTOR'S RESPONSIBILITY FOR THE WORK

A. Until the work is accepted by the Jurisdiction, it shall be in the custody of and under the charge, care, and control of the Contractor, who shall take every precaution against damage to the work by action of the elements or any other cause. The Contractor shall rebuild, repair, restore, and make good at its own expense, all damages to any portion of the work before acceptance thereof by the Jurisdiction. Issuance of any estimate or partial payment for work done will not be considered as final acceptance of any work completed.

1.06 CONTRACTOR'S RESPONSIBILITY FOR THE WORK (Continued)

- B. If the Contractor completes a unit or portion of the work, the Jurisdiction may at its discretion accept such work and the Contractor may be relieved of further responsibility for such unit or portion of the work. Such partial acceptance shall not void or alter any of the terms of the contract, nor shall it constitute final acceptance of the work as provided in [Section 1090, 1.08 - Acceptance and Final Payment](#).

1.07 RESPONSIBILITY FOR DAMAGE CLAIMS

The parties agree that it is their intent that there be no third-party beneficiaries to this contract. No provision of this contract or of any addendum, materials instructional memorandums, plans, proposal, special provision, developmental specification, supplemental specification, or general supplemental specification shall be construed as creating any third-party beneficiaries.

1.08 PERSONAL LIABILITY OF PUBLIC OFFICIALS

Neither the Engineer nor the Engineer's authorized representatives, agents, or assistants shall have any liability, either personally or as officials of the Jurisdiction, in carrying out any of the provisions of the Contract or in exercising any power or authority granted to them thereby. It being understood that in such matters they will act as the agents and representatives of the Jurisdiction.

1.09 WAIVER OF LEGAL RIGHTS

- A. The Jurisdiction shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and the materials furnished by the Contractor, or from showing that any such measurement, estimate, or certificate is untrue or incorrectly made, or from showing that the work or materials do not in fact conform to the contract documents.
- B. The Jurisdiction shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor and its surety such damages as it may sustain, and all outlay and expense it incurs, by reason of the Contractor's failure to comply with the terms of the Contract. Neither the acceptance by the Jurisdiction nor any of its representatives, nor any payment for acceptance of the whole or any part of the work, nor any extension of time, nor any possession taken by the Jurisdiction, shall operate as a waiver of any portion of the contract, or any powers herein reserved, or any right to damages herein provided. A waiver of any breach of the contract shall not be held to be a waiver of any other subsequent breach.
- C. The Contractor hereby waives any claims it may hereafter be entitled to assert against the Jurisdiction, its officers, agents, employees, or consultants, on its behalf or on behalf of its employees, agents, subcontractors, sub-subcontractors, and suppliers, for loss of or damage to personal property, tools, or equipment owned by it or its employees, agents, subcontractors, sub-subcontractors, and suppliers, which loss or damage is sustained on the Jurisdiction's project property, or which occurs during work on the project, and the Contractor agrees to assume liability or responsibility for such claims and to procure insurance to cover its exposure in that regard.

1.10 ACCEPTANCE BY THE JURISDICTION - NOT A WAIVER OF CONTRACTOR'S OBLIGATIONS OR A WAIVER OF THE JURISDICTION'S RIGHTS

- A. In various provisions of the contract documents, including these specifications, the Jurisdiction has reserved to itself or the Engineer the authority to test or inspect materials, equipment, or manufactured assemblies and to accept or reject those and other elements of the work.

1.10 ACCEPTANCE BY THE JURISDICTION - NOT A WAIVER OF CONTRACTOR'S OBLIGATIONS OR A WAIVER OF THE JURISDICTION'S RIGHTS (Continued)

- B. In various provisions of the contract documents, including these specifications, the Jurisdiction has reserved to itself or the Engineer the authority to require the Contractor's preparation of shop drawings for review and to accept or reject same. If unanticipated and either unusual or complex construction procedures or site conditions occur, the Engineer may require the Contractor to submit such shop drawings as, in the judgment of the Engineer, are necessary to satisfactorily complete the proposed construction.
- C. Acceptance or approval by the Engineer as therein provided shall not operate to relieve the Contractor of its obligation (1) to perform the work as required by the contract documents in a workmanlike manner and according to the standards for construction applicable to the type of work covered by this contract generally observed by contractors in this locale and (2) to provide materials and equipment meeting the quality requirements as provided in the contract documents. The Jurisdiction assumes no responsibility for errors in shop drawings and assumes the Contractor will use material complying with requirements of the contract documents or, where not specified, those of sound and reasonable quality, and will erect the subjects of such shop drawings according to recognized standards of first quality work or, when specified, according to standards of the contract documents.
- D. No such acceptance by the Jurisdiction shall constitute a waiver by the Jurisdiction of its right to subsequently reject defective work, materials, or equipment. Further, no such acceptance by the Jurisdiction or the Engineer shall be deemed a waiver by the Jurisdiction of its right to recover from the Contractor all losses, damages, outlay, or expense it incurs, which is attributable to such defective work, materials or equipment, or manufactured assemblies, nor shall such acceptance or approval be deemed a waiver of the Jurisdiction's right to indemnity from the Contractor for damage or injury to third parties occasioned by such defective work, materials, or equipment.

1.11 BUSINESS ORGANIZATION REQUIREMENTS

The bidder, or contractor, as a business organization shall comply with the following:

- A. A corporation, limited liability company, limited partnership, or other type of business organization governed under Iowa statutes must be registered with the Iowa Secretary of State, must use the name under which it is registered with the Iowa Secretary of State, must be authorized to do business in Iowa, and must be registered as a contractor with the Iowa Department of Labor.
- B. A partnership, sole proprietorship, company operating under a trade name, or other type of business organization not governed under Iowa statutes should be registered in the Office of the County Recorder where it is located or where the work is to be performed, must use the name under which it is registered, and must be registered as a contractor with the Iowa Department of Labor. Prior to entering into contract, the designated low bidder, if it is not required to be registered with the Iowa Secretary of State, shall provide to the Jurisdiction the name and address of its registered agent or lawful representative upon whom legal notices and processes may be served. The registered agent or lawful representative must be an Iowa resident, an Iowa profit or nonprofit corporation, or a foreign profit or nonprofit corporation qualified to do business in Iowa.
- C. A foreign business organization, organized under the laws of a state other than Iowa, shall file with the Engineer's documentation that it has complied with all the provisions of this section prior to entering into a contract.

1.11 BUSINESS ORGANIZATION REQUIREMENTS (Continued)

- D. If a bid is proposed to be submitted by two persons or entities as a joint venture, the names of the two persons or entities appearing on the documents must be followed by the notation – “a joint venture.” In that instance, the bid must also be signed by authorized agents of both entities, and the bid security must indicate that it “applies to and covers the proposal for construction of (Project Name) submitted by the (principal on bond) and (name of other company), submitted as a joint venture proposal.” A bid submitted by two persons or entities without any indication they are submitting it as a joint venture, without being signed by authorized representatives of both entities, and without bid security covering both entities as a joint venture, will be rejected.

1.12 CONSENT TO JURISDICTION OF IOWA DISTRICT COURT OR FEDERAL DISTRICT COURT IN IOWA

The Contractor agrees that any 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 shall be brought in the 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. Contractor further consents, on behalf of itself and its subrogees and assigns, 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.

1.13 SEVERABILITY

It is the intent of the Jurisdiction and the Contractor that the lawful provisions of this contract shall be severable from any provisions of this contract that are hereafter declared to be illegal or void by a court of competent jurisdiction.

PART 2 - RESPONSIBILITIES TO THE PUBLIC**2.01 SANITATION**

The Contractor shall arrange for the necessary sanitary conveniences, properly secluded, for the workers on the project. These shall be maintained in a manner inoffensive to the public and in compliance with the local health regulations.

2.02 CONVENIENCE AND SAFETY

A. Use of Streets: The Contractor is granted the privilege of using Jurisdictional roads, streets, or highways, as shown on the plans, for the purpose of doing work specified in the contract, but is not granted exclusive use of such roads, streets, or highways.

B. Protection of Workers and the Public: The Contractor shall erect and maintain good and sufficient guards, barricades, and signals at or near the work according to the MUTCD and all applicable laws, regulations, and specifications. The Contractor shall, in all cases, maintain safe passageways at all road crossings, crosswalks, and street intersections and shall do all other things necessary to prevent an accident or loss of any kind.

After November 24, 2008, all personnel shall wear ANSI 107 Class 2 apparel at all times when exposed to traffic or construction equipment in the right-of-way.

C. Convenience and Access: The Contractor shall handle the work in a manner that will cause the least inconvenience and annoyance to the general public and to the property owners abutting the work area. The Contractor shall also provide access to the abutting property to the greatest extent practicable.

D. Worker Safety: The Contractor shall comply with all current and future federal and state OSHA requirements. Nothing in this contract or any action by the Jurisdiction shall be interpreted or construed as a waiver of OSHA requirements. It is the Contractor's obligation to follow OSHA requirements and standards at all times.

E. Project Area or Work Site Safety:

1. In accordance with Section 1070, 1.06, 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. The Contractor is also responsible for the project area or work site. The Contractor is solely responsible for the safety of everyone on its work site.
2. The Contractor should have a safety program; however, the Contractor need not submit a safety program to the Jurisdiction, and the Jurisdiction will not review or approve the Contractor's safety program. The Jurisdiction assumes that the Contractor will maintain a safe worksite; however, the Jurisdiction's staff will not intrude in the Contractor's responsibility for safety issues.
3. The Engineer may assign some or all of the duties and responsibilities of the Engineer to an authorized representative for a given project. Nothing contained in this section or in the contract documents shall be construed as requiring or permitting the Engineer to direct the means, methods, sequences, or procedures, including safety measures, of performing any work under the contract or contract documents, except to assure that the quality of work conforms to these specifications and other provisions of the contract documents and that the contract will be completed as scheduled.

2.02 CONVENIENCE AND SAFETY (Continued)

- 4. The Engineer may appoint an authorized representative on the work site to monitor the materials used and the work done by the Contractor. The Engineer's authorized representative is not a safety inspector and is not responsible for monitoring, directing, or otherwise ensuring the safety of the Contractor, its subcontractors, its suppliers, or any others that may be on the work site.
- 5. Construction of the work included in the contract is by its nature dangerous work; and the Contractor is hereby notified that it is the Contractor's sole responsibility to provide as safe a working site as possible given the nature of the work. 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.

2.03 WORK AREA

- A. The Contractor shall confine its work to the Jurisdiction's premises, including construction easements and construction limit lines as shown in the contract documents and verified by the Engineer. The Contractor shall not enter upon or place materials on any private property for which the Jurisdiction has not obtained an easement for such use. The Contractor agrees to defend, indemnify, and hold the Jurisdiction harmless from all suits and actions of every kind and description resulting from the Contractor's use of private property. Before beginning construction, the Contractor shall check with the Engineer for any special instructions concerning easements.
- B. Temporary buildings, storage sheds, shops and office, etc., may be erected by the Contractor only with the prior approval of the Engineer and shall be built with labor and materials furnished by the Contractor without expense to the Jurisdiction. Such temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor, at its expense, after the completion of the work.

2.04 PROJECT AREA FOR THE WORK

- A. **Acquisition:** Existing and proposed additional right-of-way or easements shown on the plans and/or in the contract documents will provide, without cost to the Contractor, adequate space for the performance of the work. If the contract documents do not contain a notice to the Contractor of non-acquired additional right of way or easements, as shown on the plans, and the Contractor provides documentation acceptable to the Engineer, compensation will be allowed for loss or damage occasioned by delays in securing said right-of-way or easements; and, if the need to acquire such additional right-of-way or easements is the sole and only cause of the impossibility of completing the work within the specified time, the Jurisdiction may grant an extension of time if requested by the Contractor. Before beginning construction, the Contractor shall obtain from the Engineer a list of any easements or right-of-way not acquired and any special instructions pertaining to properties affected by the work.
- B. **Location:** Property lines, limits of easements, and limits of construction permits are indicated on the plans, and it shall be the Contractor's responsibility to confine its construction activities within those limits.
- C. **Use:** The Contractor shall confine its equipment, storage of materials, and operation of work to the limits indicated by laws, ordinances, permits, or direction of the Engineer and shall not unreasonably encumber the premises with its materials.

No storage of flammable products or combustible materials shall be allowed below overhead portions of bridges, other highway structures, or existing overhead structures spanning or encroaching the public right-of-way or easements. When not in use, materials or products that present risk of fire hazards must be stored at least 15 feet from the footprint of overhead structural elements.

2.04 PROJECT AREA FOR THE WORK (Continued)

The Contractor shall comply with the Engineer's instructions regarding signs and advertisements.

D. Encroachments: Any damage resulting to persons or property from the Contractor's encroachment beyond the specified limits shall be the sole responsibility of the Contractor.

2.05 EXPLOSIVES

A. Use: The Contractor shall not blast any rock or other materials or allow the same to be done in prosecution of the work, unless it secures the Engineer's approval, proper insurance coverages, and a blasting permit when required.

B. Safety: The Contractor is solely responsible for all damage resulting from blasting operations performed by the Contractor or its agents. The Contractor shall use the utmost care to not endanger life or damage property; and whenever ordered by the Engineer, the number and size of the charges shall be reduced. Suitable coverages or mats shall be provided to confine all materials lifted by blasting within the limits of the excavation or trench. All explosives shall be stored in a secure manner and clearly marked according to all applicable laws and regulations.

C. Regulations: The Contractor shall abide by all existing Federal, State, and Local regulations regarding the use of explosives, including, but not limited to, Uniform Fire Code, Article 77, and National Fire Protection Association 495, Explosive Materials Code of the National Fire Codes.

2.06 TRAFFIC CONTROL**A. General:**

1. The Contractor shall maintain traffic and shall provide and maintain traffic control devices according to the contract documents. If there is no specific traffic control plan, then the Contractor's traffic control devices shall meet the requirements of and be placed according to the current edition of MUTCD.
2. During construction, areas to be maintained for traffic shall be kept clear of all hazardous materials, including but not limited to construction debris, dust, and mud.

B. Closing Streets to Traffic:

1. Upon the Engineer's approval, the Contractor may close streets or parts of streets to vehicular traffic as soon as the construction work is started; such streets or parts of streets shall remain closed as long as construction work or condition of the finished work requires. The Engineer will determine how many streets or parts of streets may be closed by the Contractor at one time, and may refuse to allow the closing of additional streets until some of the improvement is finished and opened to traffic.
2. The Contractor shall notify the Engineer 48 hours in advance (excluding weekends) of closing any roads, streets, or public thoroughfares. No road or street shall be closed without prior approval from the Engineer.
3. The Contractor shall not remove, relocate, or reset any permanent Jurisdictional traffic control devices unless authorized to do so by the Engineer or contract documents. If a sign must be removed or relocated for any phase of construction, the Contractor shall notify the Engineer of the necessity for removal. The Engineer shall arrange for the removal, relocation, or resetting of permanent traffic control devices by Jurisdictional personnel as needed to allow the work to proceed. If Jurisdictional personnel are not available, the authorized Jurisdictional representative may give authorization to the Contractor to remove, relocate, or reset the permanent traffic control devices.

2.06 TRAFFIC CONTROL (Continued)

4. In the event the Contractor removes or relocates a traffic control sign without prior notice to or authorization from the Engineer, the Contractor shall bear all responsibility and liability to any person sustaining bodily injury or property damage on account thereof.

2.07 PROTECTION OF ABOVEGROUND AND UNDERGROUND FACILITIES

- A. The Engineer has attempted to show on the plans all aboveground and underground facilities, including public and private utilities, which may be affected by the work. The location, depth, and size of each such facility shown on the plans is approximate only and is not guaranteed. Other underground facilities may exist and their location may not be presently known or identified. It is the Contractor's responsibility to determine the existence and exact location of all such facilities located within the construction area to avoid damage.
- B. Where existing facilities are shown in the contract documents or encountered within the construction area, it shall be the responsibility of the Contractor to notify the operators of those facilities prior to beginning any construction activities. The Contractor shall allow access to those facilities for necessary modification of services. The Contractor shall support, sustain, and protect existing pipes, conduits, poles, wires, and other apparatus located under, over, along, across, or adjacent to the work site. If such utilities are damaged through Contractor's negligence, they will be repaired by the agencies having control of same, but the cost of such repairs shall be paid by the Contractor.
- C. The Contractor shall, prior to commencing any excavation or other operation that may affect underground facilities, notify the "Iowa One Call" underground facility locate system, established pursuant to Iowa Code Chapter 480. The Contractor shall, if requested by the operator of an underground facility, assist in the location of its facilities; provided, however, the Jurisdiction shall not be responsible to the Contractor or to any operator of an underground facility for the cost of locating such facility, or for any damage to such facility that occurs in attempting to locate it, or for any damage to the facility occasioned by the Contractor's performance of work under the contract.
- D. Claims for additional compensation will not be allowed to the Contractor for any interference, delay, or additional work occasioned by the location or adjustment of aboveground or underground facilities, or connections thereto.

2.08 PROTECTION OF PROPERTY

- A. The Contractor shall continuously maintain adequate protection of all its work from damage and shall protect the Jurisdiction's property and adjacent private property from injury or loss arising in connection with the work. The Contractor shall repair or restore any such damage, injury, or loss to Jurisdiction property or adjacent private property.
- B. Protect existing facilities, trees, and shrubs to remain in place. Any damage to existing trees or shrubs, branches, and root systems to remain and to be protected shall be repaired and/or pruned by an experienced tree surgeon or arborist. Do not disturb soil within 10 feet of the drip line of trees without notifying the Engineer. The Contractor shall mark the 10 foot limit from the drip line.
- C. The Contractor shall continuously maintain its work area by undertaking mowing, weed control, and solid waste management in a manner matching the maintenance level of the area properties. Failure to do so within three working days after direction from the Engineer may cause the Jurisdiction to do the work and the cost thereof deducted from the Contractor's next payment.

2.09 LAND MONUMENTS

- A. The Contractor will be required to preserve all center stones, land monuments, or other property marks the Contractor may find in prosecuting the work. The Contractor shall notify the Engineer of the finding of any land monuments and shall not remove or disturb same until permission is given to do so, at which time the Contractor shall properly remove said landmarks under the direction of the Engineer.
- B. For every land monument lost or destroyed by the Contractor, the Contractor may be charged, and such amount shall be deducted from any monies due or may become due to the Contractor under the contract.

2.10 DUST CONTROL

During construction operations, the Contractor shall be responsible for the control of dust to a degree compatible with the area in which the construction is being performed and with existing environmental regulations. In the event the Contractor does not control dust as specified, the Jurisdiction reserves the right to order dust control to be performed by other forces and withhold the cost thereof from any monies due or may become due to the Contractor under the contract.

2.11 ENVIRONMENTAL AND HISTORIC ITEMS

If contaminated soils, historical artifacts, or other environmental or historic items are encountered, stop work and notify the Engineer.

2.12 RAILROAD CROSSINGS

The authority for performing work beneath, at grade, or over railroad tracks will have been previously secured by the Jurisdiction. It shall be the Contractor's responsibility to contact the railroad company officials prior to beginning the work on railroad property or easements. The Contractor shall perform the work without damage to the facilities and property of the railroad or its lessees, and in strict observance of requirements for the safety of the railroad property and operations. All such work will be subject to the inspection of the railroad's representative. The Contractor shall protect, indemnify, and hold the Jurisdiction harmless from any and all damages resulting from its operations on railroad property or easements or in the construction of railroad crossings according to Section 1070, Part 3 - Bonds and Insurance.

2.13 BORROW AND WASTE SITES

- A. Unless borrow or waste sites are designated on the plans or specified in the special provisions, the Contractor shall secure and operate such sites at its own expense.
- B. In all cases, borrow and waste sites shall be operated in such a manner as to meet Federal, State, and local safety, environmental, and health requirements. Site operations, or the result of such operation, that create a definite nuisance or result in damage to public or private property will not be permitted. In all cases, sites shall be approved by the Engineer before use.

2.14 MAINTAINING POSTAL SERVICE

- A. It shall be the Contractor's responsibility to contact the U.S. Postal Service to ascertain its requirements for the maintenance of postal service to residents or businesses in the vicinity of the work site according to the instructions of the Postal Service. The Contractor shall be responsible for mailboxes at temporary locations designated by the Postal Service, and at the completion of the work, the Contractor shall replace all mailboxes in locations and conditions satisfactory to the Postal Service.
- B. Not less than 24 hours prior to removing any mailbox, the Contractor shall notify each affected resident or business addressee in writing advising them of the move and the location of their temporary mailbox during construction.
- C. For each residential or business address affected by the work, the Contractor shall place a temporary mailbox at a location approved by the Postal Service. Temporary mailboxes shall be in place so postal service is maintained at all times. Any permanent mailbox that must be removed shall be stored on the property from which it is removed and at a sufficient distance from the work area to ensure it will not be damaged by construction activities.

2.15 FINISHING AND CLEANUP REQUIREMENTS

From time to time, as may be ordered by the Engineer, and immediately after completion of the improvement, the Contractor shall, at its expense, cleanup and remove all refuse and unused materials of any kind resulting from the work. Upon failure to do so within three working days after such request by the Engineer, the work may be done by the Jurisdiction and the cost thereof charged to the Contractor and deducted from its final payment. Upon completion of the work, the Contractor shall remove all its equipment and put the area of the work in a neat and clean condition and do all other cleaning necessary to complete the work in a workmanlike manner satisfactory to the Engineer.

PART 3 - BONDS AND INSURANCE**3.01 PERFORMANCE, PAYMENT, AND MAINTENANCE BOND**

- A. The lowest responsive, responsible bidder shall be required to file, before the contract is awarded, a surety bond for performance, payment, and/or maintenance on a form provided by the Jurisdiction and in penal sum equal to the total bid amount. Said bond shall be executed by a corporation authorized to contract as a surety in the state of Iowa. Said bond shall be filed in the specified number of copies as a part of the executed contract documents for the Jurisdiction's approval and award.
- B. Said bond shall provide that the Contractor shall well and satisfactorily perform and execute the work in all respects, according to the contract documents therefore, and according to the time and conditions of the contract documents, and also that the Contractor shall pay all debts incurred by it in the prosecution of such work, including those for labor and materials furnished. Said bond may also provide for the maintenance of the improvement for the number of years stipulated in the contract documents, and shall remain in full force for the entire maintenance period. Said bond shall in all cases comply with the laws of the State of Iowa and shall be subject to the approval of the Jurisdiction.
- C. Within the time period specified in the maintenance portion of the bond, the Contractor shall, as and when ordered by the Engineer, repair, replace, or rebuild such portions of the work found to be faulty because of materials or workmanship. After being notified of the need for repairs, the Contractor shall submit, within seven calendar days, a written report stating its intentions and schedule for completing the repairs for approval by the Engineer. If the Contractor fails to submit such written report or to make the repairs as approved by the Engineer, the Jurisdiction shall have the right to make such repairs and to collect from the Contractor or its surety all outlay and expense the Jurisdiction incurs in making the repair, and in attempting to enforce the terms of the contract and the bond against the Contractor and its surety.

3.02 INSURANCE REQUIREMENTS

- A. The Contractor shall purchase and maintain insurance to protect the Contractor and the Jurisdiction against all hazards herein enumerated throughout the duration of the contract. Said insurance shall be provided by an insurance company or companies, "admitted" or "non-admitted" to do business in the State of Iowa, having an A.M. Best rating of no less than "B+."
- B. "Insurance," "insurance policy," or "insurance contract" when used in these specifications shall have the same meaning as "insurance policy" and "insurance contract" under Iowa Code Section 507B.2. All insurance required by this section shall provide coverage on an occurrence basis, not on a claims-made basis, and the person or other entity shall provide evidence of such coverage through an "insurance policy," "contract of insurance," or "certificate of insurance" that clearly discloses on its face coverage on an occurrence basis. Insurance coverage required for hazardous materials abatement including removal of lead, asbestos, PCB's, or the like may be provided on a claims-made basis when it is demonstrated to the satisfaction of the Jurisdiction that occurrence coverage is not reasonably available.
- C. Except for workers compensation insurance, the Contractor shall purchase and maintain such insurance as will protect the Contractor and the Jurisdiction as set forth below, which may arise out of or result from the Contractor's operations under the contract, whether such operations be by the Contractor, its subcontractors or consultants, suppliers, third parties, or the agents, officers, or employees of any of them. In addition, the Contractor shall purchase and maintain workers compensation insurance to cover its employees.

3.02 INSURANCE REQUIREMENTS (Continued)

1. Workers Compensation: A standard Workers Compensation policy approved for use in the State of Iowa shall be issued with the following coverages.
 - a. Statutory Benefits covering all employees injured on the job by accident or disease as prescribed by Iowa Code Chapter 85.
 - b. Employers Liability insurance with the following limits:

Bodily injury by accident	\$500,000 each accident
Bodily injury by disease	\$500,000 each accident
Bodily injury by disease	\$500,000 policy limit

2. Commercial General Liability Insurance: No less comprehensive and no more restrictive than the coverage provided by a standard form Commercial General Liability Policy (ISO CG 0001 or its equivalent) with all standard exclusions with minimum limits shown below covering claims for damages because of bodily injury, personal injury, or damage to property that occur on the premises under contract or arise out of the operations in performance of the contract. Any additional exclusions shall be identified on the Certificate of Insurance and shall be subject to the review and approval of the Jurisdiction.

General Aggregate Limit	\$2,000,000
Products' Completed Operations Aggregate Limit	\$2,000,000
Personal and Advertising Injury Limit	\$1,000,000
Each Occurrence Limit	\$1,000,000
Fire Damage Limit (any one fire)	\$50,000
Medical Damage Limit (any one person)	\$5,000

This insurance must include the following features:

- a. Coverage for all premises and operations. The policy shall be endorsed to provide the Designated Construction Project(s) General Aggregate Limit Endorsement (ISO CG 2503 or its equivalent).
- b. Personal and advertising injury.
- c. Operations by independent contractors.
- d. Contractual liability coverage. If work to be performed by Contractor includes construction or demolition operations within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass, or crossing, then such policy will include a Railroad's Contractual Liability Endorsement (ISO CG 2417 or its equivalent).
- e. Coverage for demolition of any building or structure, collapse, explosion, blasting, excavation, and damage to property below the surface of the ground (XCU coverage).
- f. Any fellow employee exclusions shall be deleted as it applies to managerial and supervisory employees.
- g. The policy shall not contain a total or absolute pollution exclusion. Coverage shall be provided for pollution exposures arising from products and completed operations.
- h. Products and completed operations shall be maintained for the duration of the work; and shall be further maintained for a minimum period of time after final acceptance and payment if required in the Special Provisions.
- i. Contractual liability coverage will also include contractually assumed defense costs in addition to policy limits.
- j. In lieu of including the Jurisdiction as an additional insured on the Contractor's Commercial General Liability Insurance, the Jurisdiction, at its option, may require the Contractor to provide an Owner's Protective Liability Policy by Special Provision, or may allow the Contractor to provide an Owner's Protective Liability Policy by Change Order. If an Owner's Protective Liability Policy is provided, the minimum coverage, limits, and exclusions shall be as shown above; and the Contractor's premium cost of obtaining such insurance shall be considered incidental to the work and shall not be subject to reimbursement by the Jurisdiction.

3.02 INSURANCE REQUIREMENTS (Continued)

3. Automobile Liability Insurance: Covers all owned, non-owned, hired, and leased vehicles with a minimum combined single limit of \$1,000,000 per accident covering claims for damages because of bodily injury, personal injury, or damage to property that arise out of operations in performance of the contract. The insurance must include contractual liability coverage. Any fellow employee exclusion shall be deleted. The policy shall provide Auto Cargo Pollution Endorsement (ISO CA 99 48 or its equivalent), if required in the special provisions.
4. Railroad Protective Liability: If required by the Jurisdiction by special provision, or by an affected railroad, the Contractor shall procure and maintain Railroad Protective Liability Insurance naming the railroad as the insured with minimum limit for bodily injury and property damage liability of \$2,000,000 per occurrence, \$6,000,000 aggregate, or with such other limits as the railroad shall require. The original of said policy shall be furnished to the railroad and a certified copy of said policy shall be furnished to the Jurisdiction prior to any construction or entry upon the railroad easement premises by the Contractor.
5. Umbrella/Excess Insurance: At the Contractor's option, the limits specified in Section 1070, 3.02, C, 1, 2, 3 may be satisfied with a combination of primary and Umbrella/Excess Insurance. At the Jurisdiction's option, the minimum insurance limits specified above may be increased by special provision. This increase may be satisfied with a combination of primary and Umbrella/Excess Insurance.
6. Additional Insured Endorsements: Except for Workers Compensation, the insurance specified shall:
 - a. Include the Jurisdiction as an additional insured, per Section 1070, 3.06, B; and
 - b. Be primary to and not in excess of or contributory with any other insurance available to the Jurisdiction.
7. Reference to ISO: Wherever the term "ISO" appears in these specifications, any subsequent equivalent ISO form or non-ISO equivalent form may be used.

3.03 CONTRACTOR'S INDEMNITY - CONTRACTUAL LIABILITY INSURANCE

- A. To the extent covered by the standard insurance forms listed in Section 1070, 3.02, the insurance shall include contractual liability insurance to cover all indemnification and hold harmless agreements and provisions in the contract documents, including the following provision.
- B. 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

3.03 CONTRACTOR'S INDEMNITY - CONTRACTUAL LIABILITY INSURANCE (Continued)

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, regardless whether or not it is caused in part by a party indemnified hereunder.

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.

- C. In any and all claims against the Jurisdiction or the Engineer or any of their agents, officers, employees, or consultants by any employee 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, the indemnification obligation under this subsection shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- D. The obligations of the Contractor under this subsection shall not extend to the liability of the Engineer, the Engineer's agents, employees, or consultants, arising out of:
 1. the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, design standards, or specifications; or
 2. the giving of or the failure to give directions or instructions by the Engineer, the Engineer's agents, employees, or consultants.

provided the preparation or the giving or failure to give directions or instructions is the sole proximate cause of the injury or damage.

- E. If any litigation on account of such claims shall be commenced against the Jurisdiction, the Contractor, upon notice thereof from the Jurisdiction, shall defend the same at its sole cost and expense; and the record of any judgment rendered against the Jurisdiction on account of such claims for damages shall be conclusive as against said Contractor and entitle the Jurisdiction to recover the full amount thereof, with interest and cost, and attorney's fees incurred by said Jurisdiction, whether the Jurisdiction paid such amounts or not.

3.04 CONTRACTOR'S INSURANCE FOR OTHER LOSSES; WAIVER OF SUBROGATION

- A. The Contractor shall assume full responsibility for all loss or damage from any cause whatsoever to any tools owned by the mechanics; or any tools, machinery, equipment, or motor vehicles owned or rented by the Contractor, its subcontractors or consultants, suppliers, third parties, or the agents, officers, or employees of any of them; or to any shed or other temporary structures, scaffolding and stagings, protective fences, and bridges belonging to the contractor, its subcontractors or consultants, suppliers, third parties, or the agents, officers, or employees of any of them, not covered by the Jurisdiction's Builders Risk Insurance.
- 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. To the extent that any subcontractors, consultants, suppliers, third parties or the agents of any of them, do not provide such coverages, any uninsured loss shall be the sole responsibility of the Contractor.

3.05 PROPERTY INSURANCE

- A. 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. This property insurance covering the work will have a deductible of \$5,000 for each occurrence, or as stated in the special provisions, which will be the responsibility of the Contractor.
- B. Property insurance shall be on an all-risk policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, flood and earthquake, theft, vandalism, malicious mischief, collapse, falsework, temporary buildings and debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Jurisdiction's services and expenses required as a result of such insured loss. Coverage for other perils shall not be required unless otherwise provided in the contract documents.
- C. Unless otherwise provided in the contract documents, this property insurance shall cover portions of the work stored off the site, after written approval of the Jurisdiction, at the value established in the approval, and portions of the work in transit. Coverage for work stored off the site and in transit will be not less than 10% of the policy amount.
- D. Boiler and Machinery Insurance: The Jurisdiction, at the Jurisdiction's option, may purchase and maintain Boiler and Machinery Insurance required by the contract documents or by law, which shall specifically cover such insured objects during installation 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.
- E. Loss of Use Insurance: The Jurisdiction, at the Jurisdiction's option, may purchase and maintain insurance to insure the Jurisdiction against loss of use of the Jurisdiction's property due to fire or other hazards, however caused. In the event the Jurisdiction purchases such insurance, the Jurisdiction shall waive all rights of action against the Contractor for loss of use of the Jurisdiction's property, including consequential losses due to fire or other hazards, however caused.
- F. If the Contractor requests in writing that insurance for risks other than those described herein or for other special hazards be included in the property insurance policy, the Jurisdiction shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate change order.
- G. If during the project construction period, the Jurisdiction insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the project or if after final acceptance, property insurance is to be provided on the completed project through a policy or policies other than those insuring the project during the construction period, the Jurisdiction shall waive all rights according to the terms of Section 1070, 3.05, I, for damages caused by fire or other perils covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

3.05 PROPERTY INSURANCE (Continued)

- H. Before an exposure to loss may occur, the Jurisdiction shall file with the Contractor a copy of each policy that includes insurance coverages required by this section. Each policy shall contain all generally applicable conditions, definitions, exclusions, and endorsements related to this project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least 30 calendar days prior written notice has been given to the Contractor.
- I. Waivers of Subrogation: The Jurisdiction and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other, and (2) the Jurisdiction's consultants, separate contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this section or other property insurance applicable to the work, except such rights as they have to proceeds of such insurance held by the Jurisdiction as fiduciary. The Jurisdiction or Contractor, as appropriate, shall require of the Jurisdiction's consultants, separate contractors, if any, and the subcontractors, sub-subcontractors, agents, and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.
- J. A loss insured under the Jurisdiction's property insurance shall be adjusted by the Jurisdiction as fiduciary and made payable to the Jurisdiction as fiduciary for the insureds, as their interest may appear, subject to requirements of any applicable mortgagee clause and of Section 1070, 3.05, K. The Contractor shall pay subcontractors their shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require subcontractors to make payments to their sub-subcontractors in a similar manner.
- K. The Jurisdiction as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five calendar days after occurrence of loss to the Jurisdiction's exercise of this power; if such objection be made, arbitrators shall be chosen according to [Section 1040, 1.10, D](#), provided one arbitrator shall be appointed by the Jurisdiction, one by the party in interest making objection, and the third to be appointed by the two arbitrators thus chosen. Arbitration shall thereafter proceed as provided in [Section 1040, 1.10, E through G](#). The Jurisdiction as fiduciary shall, in that case, make settlement with insurers according to the direction of such arbitrators. If distribution of insurance proceeds by arbitration is required, the arbitrators will direct such distribution.
- L. Partial occupancy or use of the work shall not commence until the insurance company or companies provided property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Jurisdiction and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance.
- M. Installation Floater: Under contracts where the Jurisdiction does not provide Builders Risk Insurance, the Jurisdiction may by special provision require the Contractor to provide coverage under an "Installation Floater" covering 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. The Installation Floater covering the equipment shall have a maximum deductible no greater than \$5,000 for each occurrence, which will be the responsibility of the Contractor.

3.06 ENDORSEMENT NAMING JURISDICTION AS AN ADDITIONAL INSURED / CANCELLATION AND MATERIAL CHANGE / GOVERNMENTAL IMMUNITIES ENDORSEMENT

A. All liability insurance policies the Contractor is required to provide pursuant to this Section 1070, Part 3 - Bonds and Insurance shall be by endorsement name and designate the Jurisdiction as an additional insured.

B. The Additional Insured Endorsement shall include the following provisions:

The Jurisdiction, including all its elected and appointed officials, all its employees and volunteers, all its boards, commissions and/or authorities and their board members, employees, and volunteers, and all its officers, agents, and consultants, are named as Additional Insureds with respect to liability arising out of the Contractor's work and services performed for the Jurisdiction. This coverage shall be primary to the Additional Insureds, and not contributing with any other insurance or similar protection available to the Additional Insureds, whether other available coverage by primary, contributing, or excess.

The Additional Insured Endorsement shall be included on all Commercial General Liability, Automobile Liability, and Umbrella/Excess Insurance policies.

C. The Cancellation and Material Change Endorsement shall include the following provisions:

Thirty calendar days advance written Notice of Cancellation, Non-Renewal or Reduction in Insurance coverage and/or Limits, and 10 calendar days written Notice of Non-payment of Premium, 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.

This Cancellation and Material Change Endorsement shall be included on insurance policies required by the SUDAS Standard Specifications.

D. All liability policies that include the Jurisdiction as an additional insured shall include a Governmental Immunities Endorsement, pursuant to Iowa Code Section 670.4, which endorsement shall include the following provisions:

1. **Nonwaiver of Government Immunity:** The insurance carrier expressly agrees and states the purchase of this policy and including the Jurisdiction as an Additional Insured does not waive any of the defenses of governmental immunity available to the Jurisdiction under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.
2. **Claims Coverage:** The insurance carrier further agrees this policy of insurance shall cover only those claims not subject to the defense of governmental immunity under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.
3. **Assertion of Government Immunity:** The Jurisdiction shall be responsible for asserting any defense of governmental immunity, and may do so at any time and shall do so upon the timely written request of the insurance carrier. Nothing contained in this endorsement shall prevent the carrier from asserting the defense of governmental immunity on behalf of the Jurisdiction.
4. **Non-Denial of Coverage:** The insurance carrier shall not deny coverage or deny any of the rights and benefits accruing to the Jurisdiction under this policy for reasons of governmental immunity unless and until a court of competent jurisdiction has ruled in favor of the defense(s) of governmental immunity asserted by the Jurisdiction.

3.06 ENDORSEMENT NAMING JURISDICTION AS AN ADDITIONAL INSURED / CANCELLATION AND MATERIAL CHANGE / GOVERNMENTAL IMMUNITIES ENDORSEMENT (Continued)

5. No Other Change in Policy: The insurance carrier and the Jurisdiction agree the above preservation of governmental immunities shall not otherwise change or alter the coverage available under the policy.

This Government Immunities Endorsement shall be included on all insurance policies that include the Jurisdiction as Additional Insured.

- E. 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:
 1. Nonwaiver of Government Immunity: The insurance carrier expressly agrees and states the purchase of this policy does not waive any of the defenses of governmental immunity available to the Jurisdiction under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.
 2. Claims Coverage: The insurance carrier further agrees this policy of insurance shall cover only those claims not subject to the defense of governmental immunity under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.
 3. Assertion of Government Immunity: The Jurisdiction shall be responsible for asserting any defense of governmental immunity, and may do so at any time and shall do so upon the timely written request of the insurance carrier. Nothing contained in this endorsement shall prevent the carrier from asserting the defense of governmental immunity on behalf of the Jurisdiction.
 4. Non-Denial of Coverage: The insurance carrier shall not deny coverage or deny any of the rights and benefits accruing to the Jurisdiction under this policy for reasons of governmental immunity unless and until a court of competent jurisdiction has ruled in favor of the defense(s) of governmental immunity asserted by the Jurisdiction.
 5. No Other Change in Policy: The insurance carrier and the Jurisdiction agrees that the above preservation of governmental immunities shall not otherwise change or alter the coverage available under this policy.

This Government Immunities Endorsement shall be included in all Insurance Policies in the Jurisdiction's name.

3.07 PROOF OF INSURANCE

- A. The Contractor shall, prior to the Jurisdiction's approval and execution of the Contract, provide to the Jurisdiction a certificate or certificates of insurance evidencing all required insurance coverages as required in this Section 1070, Part 3 – Bonds and Insurance, utilizing the ACORD certificate form, or equivalent, required by the Jurisdiction. The Certificate of Insurance requirement may be satisfied with a blanket certificate.
- B. The Description of Operations on the Certificate of Insurance for the work must state either:
 - 1) Blanket certificate of coverage of all work, services, or projects with the Jurisdiction, or 2) Identify the specific project by name and project number. The Contract will not be submitted for approval execution by the Jurisdiction until all certificates of insurance are correct and have received staff approval.
- C. The Cancellation statement on the Certificate of Insurance shall be superseded by the Cancellation and Material Changes Endorsement, which shall be attached to the certificate.

3.07 PROOF OF INSURANCE (Continued)

- D. All endorsements required for the work shall be attached to the appropriate Certificate or Certificates of Insurance and shall be, on the face thereof, listed by name.
- E. If an Owner's Protective Policy is provided, the policy with appropriate endorsements shall be submitted to the Jurisdiction. The Contract will not be submitted for approval and execution by the Jurisdiction until the Owner's Protective Policy and all certificates of insurance are correct and have received staff approval.

3.08 NOTIFICATION IN EVENT OF LIABILITY OR DAMAGE

- A. Upon the occurrence of any event, the liability for which is herein assumed by the Contractor, the Contractor agrees to forthwith notify the Jurisdiction in writing of such happening, which notice shall give the details as to the happening, the cause as far as can be ascertained, the estimate of loss or damage done, the names of witnesses, if any, and stating the amount of any claim.
- B. In the event the Jurisdiction has or obtains actual knowledge of any event that may result in a claim, the liability for which is herein assumed by the Contractor, the Jurisdiction agrees to notify the Contractor of such event within a reasonable period of time after acquiring knowledge thereof; provided however, the Jurisdiction shall have no duty to inspect the project to obtain knowledge of such events; and provided further the Jurisdiction's failure to so notify the Contractor shall not relieve the Contractor of any liability or obligation herein assumed by the Contractor.

3.09 SAMPLE INSURANCE FORMS

See the SUDAS website (www.iowasudas.org) for examples of standard insurance forms.

END OF SECTION

PROSECUTION AND PROGRESS**1.01 SUBLETTING OR ASSIGNMENT OF CONTRACT****A. Work by Contractor:**

1. The Contractor shall perform, with its own organization and forces, work amounting to no less than 30% of the total contract cost, except any items designated in the contract documents as "specialty items" may be performed by subcontract, and the cost of any such "specialty items" may be deducted from the total contract cost before computing the amount of work required to be performed by the Contractor with its own organization. Any items that have been selected as "specialty items" for the contract will be listed as such in the contract documents.
2. In order to meet this 30% requirement, the Contractor shall not purchase any materials for a subcontracted item, nor shall it place other contractor's employees on its payroll.
3. The Contractor shall not assign this Contract to another person, firm, or corporation without the prior consent of the Jurisdiction. The Jurisdiction may refuse to approve a proposed assignment of contract if such assignment would not be in the best interests of the Jurisdiction, or if such assignment would be contrary to law or public policy. An assignment of contract and all subcontracts shall be in writing.

B. Permission to Sublet:

1. The Contractor shall not sublet, assign, or otherwise dispose of any portion of the contract, except for the furnishing and transportation of materials, without a written "permission to sublet" order duly approved by the Jurisdiction.
2. Requests for permission to sublet, assign, or otherwise dispose of any portion of the contract shall be in writing and shall provide the name, address, telephone number, and representative of the organization that will perform the work, a description of the work to be sublet, and the associated cost. When requested by the Engineer, the Contractor shall provide a written report showing the organization that will perform the work is particularly experienced and equipped for such work.
3. Consent to sublet, assign, or otherwise dispose of any portion of the contract shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract or in any way create any contractual relationship between the subcontractor and the Jurisdiction.

C. Subcontracts:

1. Upon request of the Engineer, the Contractor shall submit a copy of each subcontract agreement within 10 calendar days.
2. The Contractor shall be responsible to include all conditions and requirements of the contract documents in all its subcontracts and enforce said requirements with its subcontractors.

1.02 CONTRACT TIME

A. When a completion date is specified in the contract documents, the contract time shall be the time from the starting date stated in the Notice to Proceed to the date specified for completion as shown in the contract, both dates inclusive. When working days or calendar days are specified in the contract documents, the contract time shall be the time as calculated with the number of working days or calendar days as specified in the contract and the starting date in the Notice to Proceed. The contract time may be extended by the Jurisdiction as provided in these specifications, in which event the contract time includes the new extension of time. The Contractor acknowledges that if it fails to complete the contract in said time, liquidated damages will be assessed against it as specified in [Section 1080, 1.12 - Liquidated Damages](#).

1. Completion Date Contracts: The Contractor shall complete the contract on or before the completion date. Unless otherwise noted in the proposal form, the Contractor may commence work any time after receipt of the signed contract, specifications permitting and issuance of the Notice to Proceed. [Section 1080, 1.06](#) will not apply. Liquidated damages will be assessed according to [Section 1080, 1.12](#) for each calendar day beyond the completion date that the contract remains uncompleted.
2. Calendar Day Contracts: The Contractor shall complete the contract within the number of consecutive calendar days specified. The calendar day count will commence on the date specified by the Notice to Proceed. [Section 1080, 1.06](#) will not apply. Liquidated damages will be assessed according to [Section 1080, 1.12](#) for each calendar day beyond the specified number of calendar days that the contract remains uncompleted.
3. Working Day Contracts: The three types of start dates are as follows:
 - a. Specified Start Date: Working days will be charged to the Contractor starting on the specified start date, the date noted in the Notice to Proceed, or 14 calendar days after execution of the contract, whichever is later. Starting work prior to the specified start date will be considered upon request, and working days will be charged when work starts.
 - b. Approximate Start Date: It is expected the site will be available by the approximate start date. If it appears the site will not be available by the approximate start date, the Engineer will inform the Contractor of the delay and if possible the duration of the delay. The Contractor may commence work, weather and specifications permitting, any time after execution of the contract, after receipt of the Notice to Proceed, and on or after the approximate start date provided the site has become available. If work is started under these conditions, working days will be charged. Starting work before the approximate start date and before the site is available, will be considered only after the Contractor has submitted a signed waiver of any right to claim extra compensation for damages due to delays from any cause related to early commencement. If approved, working days will not be charged when working prior to the date of site availability. If the Contractor is working on the project when the site becomes available, working days will be first charged on the following day.
 - c. Late Start Date: Unless otherwise noted in the proposal form, the Contractor may commence work any time after receipt of the signed contract, receipt of the Notice to Proceed, and weather and specifications permitting. Working days will begin to be charged whenever the Contractor starts work. Charging of working days will begin on the late start date if the Contractor has not started work prior to this date.

If the Contractor wishes to start preliminary work prior to the late start date and move out intending to return at a later date to complete the project, the Contractor shall request approval from the Engineer for temporary suspension of work according to [Section 1080, 1.08](#). Approval of suspension of work in this circumstance will be based on if the project area is in a condition that is at least as safe as it was before the start of the work. The Engineer will submit in writing to the Contractor approval for suspension of work and a computed revised late start date. The revised late start date will be computed by adding the working days used for the preliminary work to the late start date listed on the proposal form. The charging of the remainder of the working days will resume on the revised late start date or when the Contractor recommences work if prior to the revised late start date.

1.02 CONTRACT TIME (Continued)

- B. Intermediate contract periods may be designated for completion of a specific item or certain portions of the contract. The contract period and the liquidated damages, if any, for each portion will be listed in the contract documents.

1.03 WORK PROGRESS AND SCHEDULE

- A. The progress of the work shall be at a rate sufficient to complete the contract within the time allowed. The Contractor's sequence of operations shall be such as to cause as little inconvenience to the general public as possible.
- B. After being awarded the contract, and if requested by the Engineer, the Contractor shall immediately prepare and submit to the Engineer for approval a progress schedule that will ensure the completion of the project within the time specified. Adequate equipment and forces shall be made available by the Contractor to start work immediately upon Notice to Proceed by the Engineer and to prosecute the work to completion according to schedule and within the time specified.
- C. If it appears the rate of progress is such that the contract will not be completed within the time allowed, or if the work is not being executed in a satisfactory and workmanlike manner, the Engineer may order the Contractor to take such steps as necessary to complete the contract within the period of time specified or to prosecute the work in a satisfactory manner. If the Contractor fails to comply with such order within two weeks after receipt of the order, the Jurisdiction will have the right to declare the contract in default.

1.04 PRECONSTRUCTION CONFERENCE

The Engineer may schedule and conduct a preconstruction conference. The Contractor and the intended subcontractors, if known, shall participate in this conference. The Engineer will invite representatives of railroads and utilities and others having responsibilities or interest in the work.

1.05 NOTICE TO PROCEED

- A. The return of the signed and executed contract to the Contractor shall serve as notice the contract bond is acceptable, the contract is in force, and the Contractor may complete arrangements for materials and other work according to the contract documents.
- B. The Contractor shall begin work as specified in the Notice to Proceed issued by the Engineer and shall prosecute the work vigorously and continuously to completion, except when it is physically impossible to do so due to weather conditions or other unavoidable handicaps. The necessity of discontinuing and resuming work on any portion of the contract shall be determined by the Engineer.
- C. The Jurisdiction may, if provided for in the contract documents, give a limited Notice to Proceed as to any portion of the work under the contract.

1.06 WEEKLY RECORD OF WORKING DAYS

- A. On contracts with completion provisions based upon working days, the Engineer will furnish the Contractor a weekly statement showing the number of working days charged to the Contractor for the preceding week, the number of working days specified for completion of the project, the number of working days remaining to complete the contract, and the revised date for completion.

1.06 WEEKLY RECORD OF WORKING DAYS (Continued)

B. Working days will be charged under the following circumstances:

1. **Prior to Commencement of Work:** Beginning on the date designated in the Notice to Proceed, or beginning on the specified starting date or as soon thereafter as provided in the specifications, a working day will be charged for every calendar day other than Saturday, Sunday, or a recognized legal holiday. Working days will be charged for Saturdays if a mandatory six-day work week is specified in the contract documents.
2. **After Commencement of Work:** One full working day will be charged for any weekday, exclusive of Saturdays, Sundays, or a recognized legal holiday, when weather or other conditions (not under control of the Contractor) will permit construction operations to proceed for not less than 3/4 of a normal workday in the performance of a controlling item of work as determined by the Engineer. If such conditions allow operations to proceed for at least 1/2 but less than 3/4 of the normal working hours, one-half working day will be charged.

Working days will not be charged for Saturdays (unless a mandatory six-day work week is specified in the contract documents), Sundays, and recognized legal holidays the Contractor does not work. As an incentive to the Contractor to expedite the work, working days will not be charged for Saturdays the Contractor does work, unless a mandatory six-day work week is specified. Working days will be charged for Sundays and recognized legal holidays if the contractor does work on the controlling item or work requiring inspection.

When cure time of pavements and structural concrete is the controlling item of work, working days will be charged; this will not include Saturdays, Sundays, and recognized legal holidays according to the paragraph above.

Upon written notice to the Contractor, the Engineer may suspend charging of working days on substantially completed contracts for up to 30 calendar days when only cleanup of the project site or minor work items remain. If the designated time has expired and the remaining work items and site cleanup remain uncompleted, the Engineer may restart charging of working days effective at the end of the designated period by providing written notice to the Contractor.

- C. Any objection by the Contractor to such weekly determinations shall be deemed waived and shall not thereafter be made the basis of any claim, unless the Contractor shall, within seven calendar days after receipt of a weekly statement, file with the Engineer its written protest setting forth its objections and reasons. If the Contractor's objection to the working day count is made on the grounds it was unable to work due to causes beyond its control, the Contractor shall state its reasons in writing, furnish proof to establish its claim, and state the approximate number of calendar days it estimates it was delayed. The Engineer shall then determine the appropriate number of working days to be charged under the contract.

1.07 WORK ON SUNDAYS OR LEGAL HOLIDAYS

- A. Except when an accelerated work schedule is required in the contract documents, no work requiring inspection will be allowed on Sundays or holidays observed by the Jurisdiction except with permission of the Engineer. The Contractor should request a determination of the holidays observed by the Jurisdiction.
- B. Such work as may be required to properly maintain or protect completed or partially completed construction, or to maintain lights and barricades, will be permitted on Sundays or holidays without specific permission of the Engineer.

1.08 TEMPORARY SUSPENSION OF WORKING DAYS

When, in the judgment of the Engineer, unfavorable weather makes it impractical to secure acceptable results or other conditions warrant an order to suspend working days, the Engineer shall issue to the Contractor a written order to suspend working days wholly or on any part of the contract. When conditions are again favorable for prosecution of the working days, the Engineer shall issue to the Contractor a written order to resume the suspended working days. Orders to suspend working days will not be written for short intermittent shutdowns due to weather conditions. The Contractor shall take every precaution to prevent any damage or unreasonable deterioration of the work during the time of suspended operations.

1.09 EXTENSION OF TIME

- A. Allowances for Delays:** The Contractor expressly covenants and agrees that in undertaking to complete the work within the contract time, it has taken into consideration and made allowance for all delays and hindrances that would ordinarily be anticipated in performing such work.
- B. Request for Extension of Time:** Whenever the Contractor becomes aware of its inability to complete the work under the contract within the contract period, it shall request an extension in writing. Such request shall be submitted to the Engineer at least two weeks prior to the expiration of the contract time to allow for the Jurisdiction's action before termination. The submission or acceptance of a request for extension of time shall not guarantee such extension will be granted. The following items may be justification for extension of time:
- 1. Weather:** Extension of time due to adverse weather conditions at the site, so unusual or severe as not to be reasonably anticipated, as determined by the Engineer, may be requested. An average or usual number of inclement working days when work cannot proceed are to be anticipated during the construction period and are not to be considered as warranting extension of time.
 - 2. Other Contractors:** An extension of time may be requested for delays caused by the noncompletion of essential work of other contractors, provided such noncompletion is the sole and only cause of delay, and where the Contractor has available on the site of the work all equipment, material, and labor necessary to proceed with the work.
 - 3. Change Orders:** An extension of time may be requested for delays caused by the issuance of a change order, where the work occasioned by the change order is the sole and only cause of the impossibility to complete the work within the specified time.
 - 4. Work Stoppage:** An extension of time may be requested for delays caused by a general work stoppage in the area or a work stoppage affecting this project that is beyond the control of the Contractor, or where the Contractor has taken in good faith all steps made available to it by law to resolve the causes thereof and to terminate such work stoppage.
 - 5. Acts by U.S. Government:** An extension of time may be requested for delays caused by any act taken by the United States government that would affect fabrication or delivery of materials or equipment to the work site.
 - 6. Court Proceedings:** An extension of time may be requested for delays caused by any court proceedings.
 - 7. Other Delays:** An extension of time may be requested for other delays encountered by the Contractor beyond its control and impossible for the Contractor to complete the contract within the specified time.

1.09 EXTENSION OF TIME (Continued)

- C. Claims for Damages:** The Contractor shall have no claim for damages for any extensions or delays provided or mentioned in the preceding portions of this section; but the Contractor shall, in such cases, be allowed to petition for such extension of time as the Jurisdiction may grant in writing on account of such delay, provided, however, the claim for such extension of time is made by the Contractor in writing to the Jurisdiction immediately after any such delay occurs.
- D. Extension of Time Granted:** No extension of time shall be granted or recognized except as specifically approved by the Jurisdiction in writing to the Contractor. Oral representations or agreements by Jurisdiction agents or employees regarding time extension shall not be binding on the Jurisdiction.

1.10 CONTRACTOR'S EMPLOYEES, METHODS, AND EQUIPMENT**A. Superintendent:**

1. All work under the contract shall be performed under the continuous supervision of competent personnel, thoroughly experienced in the class of work specified.
2. Prior to beginning work, the Contractor shall give the Engineer, in writing, the name of the Contractor's official representative or superintendent for the project. The superintendent shall be capable of providing adequate supervision of the project and shall be responsible for receiving instructions, notices, and written orders from the Engineer. A change of the superintendent shall be reported to the Engineer in writing. Failure to provide adequate supervision of the project shall be grounds for the Engineer to require a change in supervision before allowing the work to proceed. The superintendent shall be responsible for reporting to the Engineer any inconsistencies, omissions, or lack of definite detail in the plans, special provisions, or contract documents that may be discovered.
3. The lack of proper supervision by the Contractor or by its supervisory personnel shall be just cause for termination of the contract.

B. Workers:

1. The Contractor shall employ competent and efficient workers for every kind of work. The Jurisdiction reserves the right to direct the suspension or discharge from the work any worker, employee, agent, overseer, foreman, or superintendent in the employ of the Contractor, who, in the opinion of the Engineer, shall be incompetent, negligent, unfaithful, insubordinate, or disorderly, and any such person shall immediately be suspended or discharged by the Contractor whenever so directed by the Engineer.
2. The Contractor shall not employ or hire any of the employees of the Jurisdiction without permission of the Engineer.

C. Methods and Equipment:

1. The methods and equipment used by the Contractor shall produce a satisfactory quality of work and shall be adequate to maintain the schedule of progress specified. Equipment used on any portion of the project shall be such, and its use so regulated, that no serious or irreparable damage to the roadway, adjacent property, or other streets or highways will result from its use. If damage does occur to the street or highway, suitable repairs shall be made at the Contractor's expense.

1.10 CONTRACTOR'S EMPLOYEES, METHODS, AND EQUIPMENT (Continued)

2. When the methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the contract documents, the Contractor is free to use any methods or equipment that will accomplish the contract work in conformity with the requirements of the contract documents, as demonstrated to the satisfaction of the Engineer.
3. When the contract documents specify that the construction be performed by use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer.
4. If the Contractor desires to use a method or type of equipment other than specified in the contract documents, the Contractor may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the method and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor shall be fully responsible for producing construction work in conformity with contract requirements.
5. If after trial use of the substituted methods or equipment, the Engineer determines the work produced does not meet the requirements of the contract documents, the Contractor shall discontinue use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the defective work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of payment for the construction items involved, or in contract time, as a result of authorizing a change in methods or equipment under these provisions.

1.11 CONTRACTOR'S EQUIPMENT IDENTIFICATION

All vehicles and major construction equipment utilized on Jurisdiction's projects, with the exception of vehicles used for personal purposes and rented equipment bearing the name, address, and telephone number of the rental company, shall exhibit the Contractor's name in at least two locations on each piece of equipment. This identification can be either a decal or painted lettering of a type and size, and with a contrasting color, rendering it legible from a distance of no less than 50 feet.

1.12 LIQUIDATED DAMAGES

- A. Time is of the essence of the contract. As delay in the diligent prosecution of the work may inconvenience the public, obstruct traffic, interfere with business, and/or increase costs to the Jurisdiction such as engineering, administration, and inspection, it is important the work be prosecuted vigorously to completion. Should the Contractor, or in case of default the surety, fail to complete the work within the contract time plus such extensions of time as may be allowed by the Jurisdiction, a deduction at the liquidated damages rate specified in the contract will be made for each and every calendar day or working day, whichever is specified, that such contract remains uncompleted after expiration of the contract time. In either event, the Contractor or the Contractor's surety shall be responsible for all costs incident to the completion of the work, and shall be required to pay to the Jurisdiction the liquidated damages stipulated in the proposal form.
- B. The liquidated damages rate specified in the contract documents is hereby agreed upon as the true and actual damages due the Jurisdiction for loss to the Jurisdiction and to the public due to obstruction of traffic, interference with business, and/or increased costs to the Jurisdiction such as engineering, administration, and inspection after the expiration of the contract time, or extension thereof. Such liquidated damages may be deducted from any money due or to become due the Contractor under the contract, and the Contractor and its surety shall be liable for any liquidated damages in excess of the amount due the Contractor.

1.12 LIQUIDATED DAMAGES (Continued)

- C. Allowing the Contractor to continue and finish the work, or any part of it, after the expiration of the contract time or extension thereof shall in no way operate as a waiver on the part of the Jurisdiction of any of its rights or remedies under the contract, including its right to liquidated damages pursuant to this provision.

1.13 BREACH OF CONTRACT

- A. The Contractor's failure to perform in any of the following particulars shall constitute a breach of contract:
1. Failure by the Contractor to begin work at the time specified;
 2. Failure by the Contractor to complete the work within the contract period or any extension thereof;
 3. Failure or refusal by the Contractor to comply with an order of the Engineer within a reasonable time;
 4. Contractor's persistent disregard of laws, ordinances, or instructions of the Engineer;
 5. Contractor's repeated failure to provide sufficient workers, equipment, or materials to ensure the proper and timely completion of the work;
 6. Failure or refusal by the Contractor to remove rejected materials;
 7. Failure or refusal by the Contractor to replace, perform anew, or correct any defective or unacceptable work;
 8. Contractor's discontinuance of the work without authorization by the Jurisdiction;
 9. Bankruptcy or insolvency of the Contractor, or the making of an assignment for the benefit of creditors by the Contractor; or
 10. Failure by the Contractor to carry on the work in an acceptable manner.

Upon Contractor's breach of the contract in any particular above, the Jurisdiction shall be entitled to give notice of default to the Contractor. The notice of default shall indicate how the contract has been breached and shall indicate what action the Contractor must take to cure such breach.

- B. If the Contractor or its surety does not, within the time for cure provided in the notice of default, take action to cure such breach, the Contractor shall, at the direction of the Engineer, relinquish possession and control of the work, and the Jurisdiction shall thereupon have full power and authority, without violating the contract or bond, to take over the completion of the work, to appropriate or use any or all materials and equipment at the site that may be suitable and acceptable, to enter into agreements with others for the completion of said contract according to the terms and provisions thereof, or to use such other methods as in the Jurisdiction's opinion may be required for the completion of said contract in an acceptable manner.

1.13 BREACH OF CONTRACT (Continued)

- C. The Contractor and its surety shall be liable for all outlay and expense incurred by the Jurisdiction, together with the costs of completing the work, and such costs may be deducted from any monies due or which may become due to the Contractor. In case the outlay and expense incurred by the Jurisdiction in completing the work is less than the sum that would have been payable under the contract if it had been completed by the Contractor, then the Contractor will be entitled to receive the difference. In case such outlay and expense exceeds the sum that would have been payable under the contract, then the Contractor and its surety shall be liable for and shall pay to the Jurisdiction the amount of said excess.
- D. Neither the Jurisdiction, nor any officer, agent, or employee thereof, shall be in any way liable or accountable to the Contractor or the Contractor's surety for the method by which the completion of said work, or any portion thereof, may be accomplished, or for the price paid therefore. Neither by taking over the work nor by declaring the contract in default shall the Jurisdiction forfeit the right to recover damages from the Contractor or the Contractor's surety for failure to complete the entire contract.
- E. The Contractor shall be liable for the Jurisdiction's attorney fees incurred as a result of the Contractor's breach of contract.

1.14 TERMINATION OF CONTRACTOR'S RESPONSIBILITY

The contract will be considered completed when the work has been accepted in writing by the Jurisdiction as provided in [Section 1090, 1.08 - Acceptance and Final Payment](#) hereof. Such final acceptance shall release the Contractor from all further obligation with respect thereto, except as to conditions and requirements as set forth in the bond and Jurisdiction's specifications regarding insurance.

END OF SECTION

MEASUREMENT AND PAYMENT**1.01 MEASUREMENT**

The determination of quantities of work performed under the contract will be made by the Engineer, based upon the lines and grades as shown on the plans and as given during the progress of the work or as evidenced by approved tickets for weight or liquid measure or by measurements made by the Engineer. All items will be computed in the units shown in the contract.

1.02 SCOPE OF PAYMENT

- A. The Contractor shall receive and accept the compensation provided in the contract at unit prices, if it be a unit price contract; or at the lump sum price, if it be a lump sum price contract, except as may be modified by change orders. The compensation provided for in the contract shall constitute full payment for furnishing all labor, equipment, tools, and materials and for performing all work contemplated and embraced under the contract; for all loss or damage arising out of the nature of the work or from the action of the elements; for all expenses incurred by, or in consequence of, the suspension or discontinuance of the said prosecution of the work or from any unforeseen difficulties or obstructions that may arise or be encountered during the prosecution of the work; and for all risks of every description connected with the prosecution of the work until the final acceptance of the work by the Jurisdiction.
- B. Neither the payment of any progress payment nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material. Payment will be made only for materials actually incorporated in the work, except as provided in [Section 1090, 1.05 - Progress Payments](#).
- C. The contract price for any item shall be full compensation for all labor, materials, supplies, equipment, tools, and all things of whatsoever nature required for the complete incorporation of the item into the work the same as though the item were to read "in place," unless the contract documents shall provide otherwise.

1.03 LUMP SUM BREAKDOWNS

- A. If the contract is based on a lump sum bid price, or contains one or more lump sum items for which progress payments are to be made, the Contractor shall prepare and submit a breakdown estimate covering each lump sum item to the Engineer for approval. The breakdown estimate shall show the estimated value of each kind or item of work. The sum of the lump sum items listed in the breakdown estimates shall equal the contract lump sum. Overhead and profit shall not be listed as separate items.
- B. The breakdown estimate shall be approved by the Engineer before any progress payments are prepared. An unbalanced breakdown estimate providing for overpayment to the Contractor for items of work to be performed first will not be approved but shall be revised by the Contractor and resubmitted until acceptable to the Engineer.

1.04 PAYMENT FOR CHANGE ORDERS

- A. The Contractor's claims for extra work will not be paid unless the extra work covered by such claims was authorized by a change order as specified in [Section 1040, 1.07 - Change Orders](#).
- B. Payment for extra work shall be made in one or more of the following ways as determined by the agreement between the parties to the contract prior to the starting of the work.

1.04 PAYMENT FOR CHANGE ORDERS (Continued)

1. Unit Prices: By unit prices contained in the Contractor's original proposal and incorporated in the construction contract, so far as the same may apply.
 2. Supplemental Schedule: By supplemental schedule of prices to include costs of all equipment, material, labor, supervision, management, insurance, overhead, and incidentals, said schedule to be submitted by the Contractor upon request of the Engineer and to be accepted by the Jurisdiction.
 3. Lump Sum: By an acceptable lump sum proposal from the Contractor.
- C. The percentage markup to be allowed to the Contractor for extra work performed by a subcontractor shall be in accordance with the following:
1. 10% of the first \$50,000 with a \$100 minimum.
 2. 5% of the portion over \$50,000.

1.05 PROGRESS PAYMENTS

- A. Limits:** Progress payments made under the contract, unless provided otherwise by law, shall be made according to Iowa Code Chapter 573, and shall be made on the basis of monthly estimates of labor performed and material delivered and incorporated in to the work, as determined by the Engineer. Payment may be made for materials not incorporated into the project if they can be specifically identified and cost verified by invoice. Progress payment requests shall be accompanied by the documentation required in [Section 1090.1.07, B - Sales Tax and Use Tax](#).
- B. Retainage:** The Jurisdiction shall retain from each monthly progress payment 5% of the amount determined to be due according to the estimate of the Engineer.
- C. Quantities:** Quantities used for progress payments shall be considered as only approximate and provisional and shall be subject to recalculation, adjustment, and correction by the Engineer in subsequent partial payments and in the final payment. Inclusion of any quantities in a progress payment, or failure to disapprove the work at the time of any progress payment, shall not be construed as acceptance of the corresponding work or materials.

1.06 PAYMENT OF RETAINAGE

- A. Retained funds shall be retained by the Jurisdiction for a period of 30 calendar days after the completion and final acceptance of the improvement by the Jurisdiction. If at the end of the 30 calendar day period claims are on file as provided, the Jurisdiction shall continue to retain from the unpaid funds, a sum equal to double the total amount of all claims on file. The remaining balance of the unpaid fund, or if no claims are on file, the entire unpaid fund, shall be released and paid to the Contractor.
- B. The Jurisdiction, the Contractor, any claimant for labor or material who has filed a claim, or the surety on any bond given for the performance of the contract, may, at any time after the expiration of 30 calendar days, and not later than 60 calendar days, following the completion and final acceptance of said improvement, bring action in equity in the county where the improvement is located to adjudicate all rights to said fund, or to enforce liability on said bond, pursuant to Iowa Code Chapter 573. Upon written demand of the Contractor, served in the manner prescribed for original notices, on the person filing a claim, requiring the claimant to commence action in court to enforce the claim, an action shall be commenced within 30 calendar days, otherwise the retained and unpaid funds due the Contractor shall be released to the Contractor.

1.07 SALES AND USE TAX STATEMENT

- A. At the completion of the contract and before final payment can be made thereon, the Contractor and all subcontractors shall file with the Engineer in triplicate, with original signatures on all three sets, a statement under oath on forms provided by the Iowa Department of Revenue and Finance showing the data with reference to sales, use, and service taxes required by Iowa Code Section 423.4, as amended. On projects with a total contract cost greater than \$1 million or with supplies and materials in excess of 50% of the contract price and when directed by the Engineer, the Contractor shall submit with each progress pay estimate completed sales and use tax forms from the Iowa Department of Revenue listing all supplies and materials purchased since the previous progress payment.
- B. If a Sales Tax Exemption Certificate(s) is issued by the Jurisdiction according to [Section 1020, 1.08](#), no sales, use, or service statement is required.

1.08 ACCEPTANCE AND FINAL PAYMENT

- A. Final payment will be based on the actual final total amount of the work accomplished and finally accepted by the Jurisdiction under the contract. Under no circumstances or conditions will the Contractor be paid anything for anticipated profits for the work, nor will it be paid for any work not actually included in the improvement. The Jurisdiction will not give final acceptance of the work until the Contractor has submitted all documentation required by the contract documents.
- B. The Engineer shall, after determining the work has been finally and fully completed according to the contract documents, make a final estimate of the amount of work done and the value thereof.
- C. Final acceptance of construction shall be defined as final approval of the project only in the sense that it has been constructed, cleaned up, and completed in apparent substantial compliance with the contract documents. Said final acceptance is stipulated to mean a written acceptance by the Jurisdiction.
- D. It is mutually agreed between the parties to the contract that a certificate of completion of the project, submitted by the Engineer and approved by the Jurisdiction, shall constitute final acceptance of the work and materials included in the contract on the date of such approval, subject to the provision any such approval, acceptance, or payment as herein provided shall not constitute an acceptance of any unauthorized or defective work, or of any improper material.

END OF SECTION

These Special Provisions amend or supplement the 2025 SUDAS Standard Specifications. All provisions that are not so amended or supplemented remain in full force and effect.

A full copy of the 2025 SUDAS Specifications Manual and General Supplemental Specifications are available at the following web address: <https://www.iowasudas.org/manuals/specifications-manual/>. Specification Sections that apply directly to this project are listed in the Project Manual Table of Contents, referenced in the bid items by item code, estimate reference note description, or referenced on the drawings.

DIVISION 1 – GENERAL PROVISIONS AND COVENANTS

SUDAS Division 1 General Provisions and Covenants and the Project Manual’s Bidding Requirements contain similar requirements. Additions made by Special Provisions or in project specific non-SUDAS documents or specifications sections shall govern over the standard language in SUDAS.

SECTION 1010 – DEFINITIONS

SP-1.03 Definitions and Terms

Add the following new paragraphs immediately after paragraph 1.03 of the General Provisions and Covenants to read as follows:

Agreement or Contract. The written instrument, executed by Owner and Contractor, that sets forth the Contract Price, and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

Bidding Documents. The Bidding Requirements, the proposed Contract Documents, and all Addenda.

Bidding Requirements. The Advertisement or Notice to Bidders, Instruction to Bidders, Bid Bond, or other Bid Security, if any, the Bid Form and the Bid with any attachments.

City. City of Muscatine or Owner.

Contract Documents. Those items so designated in the Agreement or Contract, and which together comprise the Contract.

Engineer. During design and bidding, the Engineer is the Owner’s Engineering Consultant (Stanley Consultants) or Design Engineer responsible for the design. During construction, Engineer is the City Engineer responsible for administering the contract. Refer to Contract for definition of roles.

Instruction to Contractor (ITC) – Field Order. A written order issued by Engineer which requires minor changes in the work.

Issuing Office. The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

Jurisdictional Engineer, Jurisdiction, Jurisdictional Authority. Used in the SUDAS Standard Specifications shall mean the City of Muscatine.

Muscatine Power and Water (MPW). MPW is the owner of the City water and electrical systems. Legal name is Board of Water, Electric, and Communications Trustees of the City of Muscatine, Iowa.

Owner. City of Muscatine.

Request for Information (RFI). Contractor request for information to answer questions regarding conflicts or intent of the Contract Documents.

Technical Data. Those items expressly identified in Special Provisions with respect to subsurface or hazardous conditions at the site.

State Revolving Fund (SRF). Administered jointly thru the Iowa Department of Natural Resources (DNR) and the Iowa Finance Authority (IFA) SRF is a loan program for publicly owned water and wastewater utilities to finance infrastructure projects.

Substantial Completion. The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.

The following must be completed to achieve substantial completion unless otherwise noted:

- A. All utilities, sanitary sewer, storm sewer, manholes, inlets, inlet piping, sewer services, water main, water services, any relocated or repaired utilities are operational.
- B. Street pavement and curb and gutter is installed and streets are open for public use.
- C. Sidewalks are installed and available for public use.
- D. Driveways are installed and ready for residential use.

SECTION 01020 – PROPOSAL REQUIREMENTS AND CONDITIONS

Add the following under Section 01020 Proposal Requirements and Conditions

SUDAS Section 01020 Proposal Requirements and 00 21 13 Instructions to Bidders contain similar requirements. Requirements listed in the project specific Instruction to Bidders govern over standard SUDAS Specifications requirements.

SP-1.04 EXAMINATION OF THE CONTRACT DOCUMENTS AND SITE OF WORK

Add the following new paragraph(s) immediately after paragraph 1.04.E:

- F. No reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to the owner.
- G. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to the Owner.
- H. Included as part of the contract is a set of water main improvement drawings produced by MPW and the City.

SP-1.09 Preparation of the Proposal

Amend the paragraph under 1.09B with the following sentence. Bids shall be submitted using the City of Muscatine’s IonWave bidding website utilizing the unit price schedule interface on the site.

SP-1.14 Opening of Proposals

Amend the paragraph under 1.14 noting that no physical bid opening will be held. All bids will be evaluated by the City’s electronic bid submission system.

SP-1.15 LIMITATION ON WITHDRAWAL OF PROPOSALS AFTER OPENING OF PROPOSAL

Add the following new article immediately after article 1.15:

1.16 COMPLIANCE WITH STATE REVOLVING FUND REQUIREMENTS.

- A. Bidders must review the SRF Required Front End Specification document included in the project manual and submit the required materials outlined in Attachments 1 thru 10.
- B. See Document 00 21 13 Instructions to Bidders for a brief outline of bidding requirements.

SECTION 1030 – APPROVAL FOR AWARD AND AWARD OF CONTRACT

SP-1.03 Award of Contract

Add the following new paragraph(s) immediately after paragraph 1.03.D:

- E. After Notice of Award, Contractor may obtain if requested, at no charge, up to 3 printed or hard copies of the Drawings and Project Manual and one set in electronic format. Additional copies will be furnished upon request at the cost of reproduction plus handling charge.

SECTION 1040 – SCOPE OF WORK

SC-1.06 Increase or Decrease of Work

Add the following sentence immediately after paragraph 1.06.B:

- B. Quantity changes amounting to more than a 20% change to the total bid for an item and materially change the character of the work, shall be subject to unit price reevaluation to increase or decrease the unit price.

SC-1.07 Change Orders

Add the following new paragraph(s) immediately after paragraph 1.07.B:

- C. Change Procedures
 1. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to Work.
 2. Engineer will advise of minor changes in Work not involving an adjustment to Contract Price or Contract Time by issuing supplemental instructions on Engineer's Instruction to Contractor (ITC) Form.
 3. Engineer may issue a proposal request notice of change which includes detailed description of proposed change with supplementary or revised Drawings and Specifications, change in Contract Time for executing change with a stipulation of any overtime work required and period of time during which requested price will be considered valid. Contractor will prepare and submit an estimate within 10 days.
 4. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on Work. Include a statement describing reason for change, and effect on Contract Price and Contract Time with full documentation and a statement describing effect on Work by separate or other contractors. Document any requested substitutions in accordance with Substitution Request procedures.
 5. Change orders will be prepared according to SUDAS Section 1040, 1.07.
- D. During the performance of the Work, Contractor and Owner shall submit to the Design Engineer all matters in question concerning the requirements of the Contract Documents. These requests are called Request For Information (RFI). Design Engineer with reasonable promptness will issue a written clarification on the issue submitted. Engineer's written clarification, interpretation, or decision will be final unless Contractor appeals it by submitting a Change Proposal.
- E. Contractor shall submit a change proposal request or change order request to Engineer to request an adjustment in Contract Times or Contract Price. Request shall include an explanation of the reason of the request with supporting data.

SP-1.13 Errors or Omissions

Add the following new article immediately after article 1.13:

1.14 CONSTRUCTION CONSTRAINTS:

- A. Work shall be constructed within contract times defined in Agreement.
- B. Use temporary sewage bypass pumping and temporary gravity connections as needed to construct sewer. Costs for temporary pumping and temporary gravity connections shall be incidental to pipe installation and will not be paid for separately unless otherwise specifically identified in the contract.
- C. No new construction areas shall be initiated in October and no road surfaces shall be left unpaved through winter unless authorized in advance in writing by City and/or Design Engineer.
- D. Maximum length of construction area that is allowed with no permanent pavement is defined in the construction staging drawings.
- E. At no time during construction shall work two blocks (more than 800') and two intersections be closed to traffic at any one time. Limit shall include backfill up to grade. Any exceptions to this must be approved by the City.
- F. Install temporary driving surface at intersections preceding and following active trench construction to maintain cross traffic every 2 blocks. Costs for temporary gravel surfacing for intersections are paid for as a separate bid item.
- G. See J sheets for phasing constraints and staging plans.

SECTION 1050 – CONTROL OF WORK

SP-1.05 Shop Drawings, Certificates, and Equipment Lists

Add the following new subparagraph immediately after paragraph 1.05 A. 2.:

- 3. See project manual Section 01 33 00 Submittal Procedures for contract requirements for shop drawings submittal procedures.

SP-1.08 Removal of Defective Work and Materials

Add the following new paragraph(s) immediately after paragraph 1.08.C:

- D. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.
- E. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- F. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 1.08 will be charged against Contractor as set-

offs against payments due. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

SP-1.10 LINE AND GRADE STAKES

Delete subparagraph 1.10.A., B., and C. in its entirety and insert the following new paragraph in its place:

- A. The Contractor will employ a Land Surveyor to perform construction staking and record drawing production. Contractor shall coordinate day to day construction needs directly with Land Surveyor. Refer to SUDAS Section 11,010 and Special Provisions 1.16 Field Engineering under Section 1050 for requirements.
- B. The work shall be performed in strict conformity with the contract documents. Contractor's licensed land surveyor is responsible for staking the points, lines, and grades as shown in the contract documents. Contractor is responsible for proper use, interpretation, and preservation of field staking.
- C. Contractor is responsible for protecting and preserving all stakes, points, or marks set for the work by Contractor's hired land surveyor and those established by the Design Engineer's land surveyor. If stakes, points, or marks have been altered or destroyed, Contractor is responsible for correcting and replacing the stakes at their costs.

SP-1.15 Additional Contractor Responsibilities

Add the following new article immediately after article 1.15:

1.16 FIELD ENGINEERING

- A. The Contractor will employ a Land Surveyor licensed in the State of Iowa for this project. The Land Surveyor will perform construction staking and record drawing production based on field measurements and Contractor and Owner records. The Contractor shall coordinate day to day construction needs directly with the Land Surveyor.
- B. Contractor shall be responsible for the cost of construction staking beyond the initial staking.
- C. Contractor shall locate and protect survey control and reference points. Promptly notify Engineer of any discrepancies discovered.
- D. Control datum for survey is that shown on Drawings.
- E. Verify set-backs and easements; confirm drawing dimensions and elevations.
- F. Provide field services to establish elevations, lines, and levels, utilizing proven and recognized engineering survey practices.
- G. For use in record drawing production, verify and certify that the elevations and locations of the Work are in conformance with the Contract Documents.
- H. Maintain a complete and accurate log of control and survey work as it progresses.
- I. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- J. Promptly report to Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- K. Replace dislocated survey control points and property pins caused by construction activities. Replace based on original survey control. Make no changes without prior written notice to Engineer.

SECTION 1060 – CONTROL OF MATERIALS

SP – 1.02 Alternate Processes, Equipment, or Materials

Add the following new paragraph(s) immediately after paragraph 1.02.B.2:

3. For period of 30 days after effective date of Contract, Engineer will consider formal requests from Contractor for substitution of products in place of those specified. After end of that period, requests will be considered only in case of product unavailability or other conditions beyond control of Contractor.
4. Substitutions will not be considered for acceptance when:
 - a. They are indicated or implied on Shop Drawings.
 - b. They are requested directly by Subcontractor or supplier.
 - c. Acceptance will require substantial revision of Contract Documents.
5. Substitute products, "Or Equal" items, shall not be ordered or installed without written notification from Owner's Engineering Consultant and Owner's acceptance. Engineer will advise Contractor in writing of any negative determination.

SP-1.03 Samples and Testing

Change the first sentence of paragraph C. to read:

- C. All sampling and testing shall be performed by an independent testing laboratory at Contractor's cost. Laboratory shall be approved by Engineer.

SP-1.04 Storage of Materials

Add the following new subparagraph immediately after the paragraph in:

Storage of construction materials shall only be on streets and areas that are intended to be reconstructed for this Project. Coordinate use of premises under direction of Owner. Contractor shall confine construction equipment, storage of materials and equipment and operations of workers to areas permitted by law, ordinances, permits, or requirements of Contract Documents, and shall not unreasonably encumber premises with construction equipment or other material or equipment.

SECTION 1070 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

SP-1.01 Municipal Regulations, State, and Federal Laws and Regulations

Add the following new subparagraph immediately after subparagraph 1.01 C. 7.

7. Selected Contractor must comply with all the contract requirements outlined in the document SRF Required Front End Specifications within Attachments 1 thru 10. Contractor will be required to provide documentation as listed in the Attachments 1 thru 10. Failure to provide documentation or compiling to contract SRF requirements may delay payment or result in termination of the contract.

SP-2.11 Environmental and Historic Items

Add the following new sentence immediately after sentence within 2.11.

Papoose Creek Sewer (PCS) and the Upper West Branch Sewer (UWBS) will not be impacted by this project. If these sewers are disturbed unexpectedly during construction, work will cease and the Iowa State Historical Preservation Office (SHPO) will be contacted immediately (515-348-6285). Replacement of UWBS on Hagerman Drive as shown are cleared with SHPO and do not require notification.

SP-2.13 Borrow and Waste Sites

Delete the last sentence under paragraph 2.13 B.

SP-3.01 Performance, Payment, and Maintenance Bond

Add the following new subparagraph(s) immediately after subparagraph 3.01.C.:

1. Contractor shall furnish a maintenance bond, subject to the Owner's approval, guaranteeing to keep all work constructed under this contract in good repair for a period of two (2) years from date of final acceptance. Good repair shall be construed to mean free from any functional or structural deterioration, except that caused from ordinarily reasonable use and acts of God, which appreciably reduces the effectiveness of the improvement for the purpose intended or any serious departure from the standards or original construction.
2. If, in the opinion of the Owner, such deterioration takes place, they shall so notify the Contractor by registered letter to the address given in the Contractor's proposal and send a copy of such notice to the bonding company, which notice is mutually agreed to be sufficient and adequate. If the Contractor shall not proceed to remedy such defects as are called to his attention in the notice within ten (10) days, the City shall cause the repairs to be made as it deems best, and the entire cost thereof shall be paid by the Contractor or his sureties.

SP-3.02 Insurance Requirements

Supplement or replace insurance requirements as follows.

The Contractor shall purchase and maintain throughout the construction period, insurance in the following minimum requirements, and the coverage must be written in a company that has a Best's rating of B+ or better: Reference SUDAS Section 3.02 A, B, and C.

1. Worker's compensation insurance including Employer's Liability and Occupation disease covering all Iowa employees for statutory Iowa benefits who perform any of the obligations assumed by the Contractor under the contract. The policy will contain broad form all states endorsement. Reference SUDAS Section 3.02 1. for limits.

Delete subparagraph 3.02.C.2. in its entirety and insert the following in its place:

2. Comprehensive General Liability, including independent contractors, completed operations and products, contractual liability, broad form property damage, personal injury, and X, C, and U coverage; coverages must meet the following limits. Deductibles on bodily injury are not acceptable:

Coverage	Minimum Limits
Bodily Injury or Death	\$1,000,000 each occurrence \$5,000,000 aggregate
Property Damage	\$1,000,000 each occurrence
Combined Single Limit	\$1,000,000 each occurrence
Umbrella Liability Coverage	\$5,000,000

Delete subparagraph 3.02.C.3. in its entirety and insert the following in its place:

3. Comprehensive General Automobile liability insurance on all self-propelled vehicles not covered under general liability and used in connection with the Contract, whether owner, non-owner, or hired:

Coverage	Minimum Limits
Bodily Injury or Death	\$1,000,000 each occurrence
Property Damage	\$1,000,000 each occurrence
Option - Combined Single Limit	\$1,000,000 each occurrence

Add the following new subparagraph(s) immediately after paragraph 3.02.C.7:

8. Owner shall have the right at any time to require public liability insurance and property damage liability insurance greater than those required in the above paragraphs. In any

such event, the additional premium or premiums payable solely as the result of such additional insurance shall be added to the bid price.

9. Any reductions in limits or coverages or exceptions to the insurance requirements can be made if requested in writing and mutually agreed to.
10. Contractor shall furnish to the Owner and additional insureds, Certificates of Insurance evidencing compliance with the foregoing requirements before commencing any operations under this contract. Certificates shall contain a provision that the coverage afforded under the policies will not be canceled or materially changed until at least thirty (30) days prior written notice has been given to the Owner.
11. Additional Insureds: Stanley Consultants, Inc.; City of Muscatine; shall be specifically named on policy as additional insureds by endorsement, including completed operations.

SECTION 1080 – PROSECUTION AND PROGRESS

SP-1.03 WORK PROGRESS AND SCHEDULE

Add the following new paragraph(s) immediately after paragraph 1.03.C:

D. CONSTRUCTION PROGRESS DOCUMENTATION

1. Construction progress schedules:
 - a. Submit preliminary Schedule to City within 15 days after date of Owner-Contractor Agreement for coordination with Owner's requirements. After review, submit detailed schedules within 15 days.
 - 1) Submit revised Progress Schedules with each staging change or significant update to schedule.
 - 2) Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
 - 3) Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
2. Form of schedules:
 - a. Prepare schedules in form of horizontal bar chart.
 - 1) Provide separate horizontal bar for each trade or operation.
 - 2) Horizontal time scale: Identify first work day of each week.
 - 3) Scale and spacing: To allow space for notations and future revisions.
 - b. Format of listings: Chronological order of start of each item of Work.
 - c. Identification of listings: By major Specification Section numbers.
3. Construction progress schedule shall show:
 - a. Complete sequence of construction by activity.
 - b. Dates for beginning, and completion of, each major element of construction specifically listing:
 - c. percentage of completion for each item, as of first day of each month.
4. Submittal schedule shall show dates for Contractor's submittals.
5. Prepare and submit sub-schedules for each separate stage of Work as shown on J sheets.
6. Provide sub-schedules to define critical portions of prime schedules.
7. Progress revisions:
 - a. Indicate progress of each activity to date of submission.
 - b. Show changes occurring since previous submission of schedule:
 - 1) Major changes in scope.
 - 2) Activities modified since previous submission.
 - 3) Revised projections of progress and completion.
 - 4) Other identifiable changes.

- c. Provide narrative report as needed to define:
 - 1) Problem areas, anticipated delays, and impact on schedule.
 - 2) Corrective action recommended, and its effect.
 - 3) Effect of changes on schedules of other prime contractors.

- 8. Distribution copies of reviewed schedules to:
 - a. Job site file.
 - b. Subcontractors.
 - c. Other concerned parties.

- 9. Instruct recipients to report promptly to Contractor, in writing, any problems anticipated by projects shown in schedules.

SP-1.14 Termination of Contractor's Responsibility

Add the following new paragraph at the end of article 1.14:

1.14 TERMINATION OF PUBLIC IMPROVEMENTS CONTRACT

Provisions contained in Chapter 573A Code of Iowa providing for the termination of contracts in construction of public improvements when construction is stopped because of national emergency shall apply to and be a part of this contract and binding on all parties including subcontractors and sureties upon any bond given or filed in connection therewith

SECTION 3010 – TRENCH EXCAVATION AND BACKFILL

SP-1.07 SPECIAL REQUIREMENTS

Delete article 1.07 in its entirety and insert the following new paragraphs in its place.

- A. Schedule Work to keep streets, sidewalks, and utilities in usable condition; avoid property owner inconvenience.

- B. Do not trespass on private property. Maintain construction operations on existing right-of-way or easements provided for the project.

- C. Maintain suitable means of access for property owners abutting streets and highways involved in construction, except as specifically permitted otherwise by Owner.

- D. Suitable access shall mean a roadway of sufficient width, free from ruts, potholes, and mud holes, and capable of carrying a passenger car without damage to car in all weather conditions.

- E. When access must be denied due to construction, provide suitable access within 24 hours after responsible construction is completed.

- F. Whenever construction is stopped due to inclement weather, weekends, holidays, or other reasons, suitable access shall be provided for property owners.

- G. Rock trench excavation is not anticipated.

- H. Section 3010 1.08 A. 6. indicates all dewatering activities are incidental.

SP-3.01 TRENCH EXCAVATION

Add the following new subparagraph immediately after subparagraph 3.01.D.4:

- 5. Place unsuitable trench excavated material directly on trucks and haul away. No spoil banks permitted. Contractor to dispose of unsuitable job-excavated material at site determined by the contractor.

Add the following new paragraph immediately after paragraph 3.01.D:

- E. Obtain from utility company's locations of buried utilities shown on Drawings. Pothole as needed to confirm location and elevation.
- F. Some utility house services may be shown on drawings, but no attempt has been made to locate and show all services. Obtain locations of house services from utility companies.
- G. Make arrangements with utility companies to temporarily support, brace or remove utility poles either adjacent to or in trench excavation at no additional cost to Owner.
- H. MPW utility poles that require removal and relocation due to construction shall be coordinated with Muscatine Power and Water (MPW). MPW relocation costs will be billed directly to the Owner for previously approved locations.
- I. Utility mains shown on Drawings, in conflict with new facilities: Perform relocation or make arrangements with utility to perform Work at no additional cost to Owner.
- J. Utility mains not shown on Drawings, in conflict with trench excavation or new facilities notify Engineer immediately to discuss utility conflict solutions. Relocation shall be authorized by Engineer.

SP-3.03 TRENCH PROTECTION

Add the following new paragraph immediately after paragraph 3.03.B:

- C. Slope walls of trench or provide trench shoring as required to comply with OSHA and safety requirements; maintain walls of excavation vertical below top of pipe.

SP-3.06 TRENCH COMPACTION TESTING

Add the following new article(s) immediately after article 3.06:

3.07 REPAIR AND RESTORATION

- A. Repair, at no additional cost to Owner, existing fences, culverts, and drain tile disturbed by construction.
- B. Remove, salvage, store and re-install mailboxes, parking meters, impacted by construction, at no additional cost to owner.
- C. All existing permanent street signage shall be delivered to Public Works facility immediately upon removal.
- D. Maintain proper restored surface grades and elevations throughout 2-year maintenance warranty period following final closeout. If settlement of surface grading or differential settlement of pavement and manhole boxouts occur that causes surface to be at elevations other than design indicates, repair and restore immediately.
- E. Contractor fully responsible for liaison with utility companies and for repairing, at no expense to Owner, utilities damaged by Contractor. In event of break in existing water main, gas main, sewer, or electric or communication cable, immediately notify responsible official of organization operating utility affected.
- F. Restore obstructions removed to accommodate equipment or to facilitate excavation.

3.08 CLEANUP

- A. Remove waste material promptly as it is generated by construction operations; do not permit to accumulate. Cleanup each portion of construction as it is completed.

- B. Cleanup operations in public right-of-way shall be kept within 400' (120 m) of construction operations.
- C. Cleanup and remove rubbish, debris, and surplus material.
- D. Grade disposal areas periodically to reasonably neat surface to provide for drainage and access by others.
- E. Leave Site in neat condition.
- F. Reopen to traffic as soon as practicable. See J sheets and Sections 01 50 00 and 00 75 00 for traffic constraints.

3.09 MANAGEMENT OF CONTAMINATED SOILS AND GROUNDWATER

- A. No specific areas of potential contamination have been identified on Drawings. Process identified below is to be used in event contamination is discovered during construction process.
- B. Comply with local, state, and federal standards for worker protection and equipment decontamination. Submit a Site Health and Safety Plan to Owner detailing any protective measures and decontamination practices that will be utilized for dealing with contamination.
- C. Excavation within area of potential contamination shall be continuously monitored by qualified personnel using a photoionization detector (PID) for screening purposes.
- D. If no contamination is encountered, excavated material may be disposed in same manner as other excavated material.
- E. Soil exceeding 10 ppm organic vapors, or where a petroleum odor is present, will be considered potentially contaminated and shall be hauled to a stockpile site at Muscatine Solid Waste Transfer Station on Houser Street. Stockpile shall be designed as follows:
 - 1. Flat cleared area.
 - 2. Place 20 mil thick polyethylene sheeting beneath all stockpiled soil. Sheeting shall be seamless throughout.
 - 3. Stockpile shall be kept covered with more sheeting when not in use. Anchor sheeting cover to keep it in place.
 - 4. Place low earthen berm beneath bottom sheeting on all sides of stockpile to prevent liquid runoff from entering or exiting stockpile.
- F. Test soils in stockpile after work has been completed in contaminated area by compositing 10, approximately 1 oz samples into 1 sample to be used for laboratory analysis.
 - 1. Test sample for total extractable hydrocarbons (THE) by Iowa Method OA-2, polynuclear aromatic hydrocarbons (PAHs) by Method 8270 and toxic characteristic leaching procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals by SW846 Methods 1311 and 6010/7471.
 - 2. Analyze sample for benzene, toluene, ethylbenzene, and xylenes (BTEX) by Iowa Method OA-1.
 - 3. If laboratory testing finds no contamination, or contamination levels below statewide soil standards, haul stockpiled soils to normal disposal area.
 - 4. If laboratory testing identifies contamination above statewide standards, contact Muscatine County Landfill with results from testing specified above and paint filter

methods. If landfill is willing to accept this material, haul stockpiled soils to landfill. If landfill declines to accept stockpiled soils, contact Owner's Representative.

- G. Discharge groundwater encountered in excavation to storm sewer unless water has a noticeable petroleum odor or a petroleum surface "sheen." If an odor or sheen is present, discharge to sanitary sewer.
- H. Discharge groundwater encountered in excavation to storm sewer unless water has a noticeable petroleum odor or a petroleum surface "sheen." If an odor or sheen is present, discharge to sanitary sewer.

3.10 VIBRATION MONITORING

- A. Contractor is responsible for protecting existing structures and utilities from damage during construction operations. Specific properties do not require protection from construction vibration impacts. Vibration monitoring is not required by the Contractor. If conditions change requiring vibration monitoring, utilize requirements outlined below. Vibration monitoring can be used at City or Contractor discretion.
- B. Contractor to hire or provide a qualified vibration specialist to monitor and install and maintain vibration monitors. Specialist shall provide reports and logs to Contractor and City. Real-time monitoring shall be provided to alert the contractor immediately if the vibration threshold is exceeded. Contractor shall be able to provide updates to the City daily about vibration measurements.
- C. Contractor to submit detailed vibration monitoring plan prior to commencing work. The plan shall include the construction methods and equipment chosen to achieve low project vibration levels and alternate construction methods and equipment that will be used if the Peak Particle Velocity (PPV) threshold is reached or exceeded.
- D. Monitors will be placed along the corridor near properties anticipated to experience the highest impact. Locations will be determined by the City. Additional vibration monitoring by the Contractor at other locations is encouraged, but not required.
- E. Contractor will be notified when vibration exceeds a PPV level of 0.5 inches per second as measured at or in very close proximity to the monitored structure. Contractor is to change work methods to reduce vibrations when so notified.
- F. Vibration monitoring logs shall include maximum peak particle velocity recorded, frequency, type, and location of monitoring equipment, location of vibration producing event.
- G. Exterior building visual condition survey before, during and after construction will be performed and coordinated between the City and the property owners. City shall encourage property owners to provide interior structure pictures prior to construction beginning.
- H. Contractor shall be responsible for any damage caused by construction operations.

SECTION 4010 – SANITARY SEWERS

SP-1.03 SUBMITTALS

Delete paragraph in its entirety and insert the following in its place:

- A. Submit data and certificates from manufacture showing evidence that products comply with standards listed for pipe, pipe joints, gaskets, frames, lids, gratings and appurtenances.

- B. Provide evidence that components, materials, and treatment chemicals that come into contact with potable water shall be certified for conformance to ANSI/NSF Standard 60 or 61, as applicable.

SECTION 4020 – STORM SEWERS

SP-1.03 SUBMITTALS

Delete paragraph in its entirety and insert the following in its place:

- A. Submit data and certificates from manufacture showing evidence that products comply with standards listed for pipe, pipe joints, gaskets, frames, lids, gratings and appurtenances.
- B. Provide evidence that components, materials, and treatment chemicals that come into contact with potable water shall be certified for conformance to ANSI/NSF Standard 60 or 61, as applicable.

SECTION 4060 – CLEANING, INSPECTION, AND TESTING OF SEWERS

SP-1.03 SUBMITTALS

Delete paragraph in its entirety and insert the following:

- A. Provide test reports to Engineer.

SP-3.03 SANITARY SEWER LEAKAGE TESTING

Add the following sentence to the end of the paragraph

IDNR indicates replacement of existing sewers which have service connections immediately connected are exempted from leakage testing requirements.

SECTION 5010 – PIPE AND FITTINGS

SP-1.07 SPECIAL REQUIREMENTS

Delete paragraph in its entirety and insert the following:

- A. Notify local utility, Muscatine Power and Water (MPW), prior to relocating any water mains. Relocations shall only be performed in presence of local utility inspector.
- B. Local utility will perform main shutdown and notify Contractor when complete. Provide material and perform relocation under supervision of local utility inspector. Provide temporary service or make other arrangements with affected property owners for scheduled shutdown of utilities for period of longer than 4 hours.

SECTION 6030 – CLEANING, INSPECTION, AND TESTING OF STRUCTURES

SP-1.03 SUBMITTAL

Delete paragraph in its entirety and insert the following:

- A. Provide test reports to Engineer.

SP-3.04 SANITARY SEWER MANHOLE TESTING

Add the following new paragraph(s) immediately after subparagraph 3.04.A.2:

- 3. IDNR indicates replacement of existing sewers (and manholes) which have service connections immediately connected are exempted from leakage testing requirements.

SECTION 11,020 – MOBILIZATION

SP-3.01 EXISTING CONDITIONS VIDEO RECORD

Add the following new paragraph(s):

3.01 EXISTING CONDITIONS VIDEO RECORD

- A. Prior to construction, perform video recording along route of new sanitary and storm sewers. Recording shall document significant features that may be affected by construction activity. Video shall include but is not limited to adjacent building foundations, adjacent sidewalk conditions, locations of parking spots and meters, condition of existing driveways and retaining walls, and condition of existing pavement at the tie in point and 50' back from tie in points.
- B. Provide labor, equipment, and materials for televising and complete video documentation of route of sewers.
- C. Viewing shall be in upstream direction along sewer routes. Recording shall be consecutive and continuous along sewer route.
- D. Personnel and equipment:
 - 1. Furnish equipment, supplies, and materials necessary to complete Work as specified.
 - 2. Equipment not giving proper results shall be replaced.
- E. Video camera and other components shall provide clean, clear, and sharp color picture.
- F. Video recording:
 - 1. Provide complete color video recording of areas along route of new sewers. Video recording shall be provided to the City on a flash drive or on a secure file transfer site. Video may need to be divided into multiple smaller files rather than one large file for ease of file transfers.
 - 2. Produce video recordings of sufficient quality to allow proper in-house viewing with minimum of distortion; no image tearing.
 - 3. Provide voice narration on video recording to document following information:
 - a. Name of city, street, and date upon which video inspection was made.
 - b. Description of special features, i.e. cracked pavements, special landscaping, etc.
 - c. Stop camera at special features for minimum of 10 seconds to allow for photographic documentation.
 - d. Deliver video recording to City for permanent records.
 - e. Label each recording to identify sewer and limits of coverage.
- G. Recording procedure:
 - 1. Camera shall be moved at uniform rate consistent with amount of detail being recorded.
 - 2. Take necessary steps and adopt procedures to ensure optimum viewing conditions.

ADD THE FOLLOWING SPECIFICATIONS TO THE PROJECT IN ADDITION TO THE SUDAS SPECIFICATIONS:

- SECTION 01 22 00 – UNIT PRICES
- SECTION 01 33 00 – SUBMITTAL PROCEDURES
- SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS
- SECTION 01 57 14 – SWPPP – OWNER CERTIFICATION
- SECTION 01 57 15 – SWPPP – CONTRACTOR AND SUBCONTRACTOR CERTIFICATION
- SECTION 01 57 16 – SWPPP – TRAINING LOG
- SECTION 01 57 17 – SWPPP – STORMWATER CONSTRUCTION SITE INSPECTION REPORT
- SECTION 01 57 18 – SWPPP – SWPPP AMENDMENT LOG
- SECTION 01 77 00 – CLOSEOUT PROCEDURES

SRF Required Front-End Specifications



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)*

***If no DBE was chosen by the Prime Contractor to be utilized for this project, then this form is not required to be submitted.**

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

*** If no DBE was chosen by the Prime Contractor to be utilized for this project, then this form is not required to be submitted.**

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: American Iron and Steel Requirements

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 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

Printed Name

Title

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

EPA-7 5720-4.2

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://sam.gov>. 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. 10 01, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Signature of Authorized Representative

Date

Printed Name

Title

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

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:

	Minority-Owned Business Enterprise (MBE) Goal	Women-Owned Business Enterprise (WBE) Goal
Construction	1.7%	2.2%
Supplies	0.6%	5.6%
Services	2.5%	11.3%
Goods/Equipment	2.5%	10.4%
Average	1.8%	7.4%

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: _____

City: _____ State: _____ Zip: _____

Contact Person: _____

Phone Number: _____ Email: _____

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

1. Do you agree to use the good faith efforts checklist to ensure the DBEs have the opportunity to compete for procurements funded by EPA financial assistance funds?

Yes No

2. At this point in time, has the prime contractor begun to solicit work opportunities to subcontractors for this project?

Yes No N/A

3. If yes, was a DBE chosen by the prime contractor to be utilized for this project?

Yes No

Signature: _____

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/offerers 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 DBE subcontractors that were contacted. Only list those that are certified through the Iowa Department of Transportation.

Name	How Contacted (e.g. letter, phone call, fax, e-mail)	Response (e.g. did not respond, not interested, not competitive)

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.)
* If no DBE was chosen by the Prime Contractor to be utilized for this project, then this form is not required to be submitted.

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.

Subcontractor Name: _____

Project Name: _____

Bid/Proposal No.: _____ Assistance Agreement ID No. (if known): _____

Point of Contact: _____

Address: _____

Telephone No.: _____ Email: _____

Prime Contractor Name: _____

Issuing/Funding Entity: _____

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor

DBE Certified by DOT SBA Other: _____

Meets/exceeds EPA certification standards? Yes No Unknown

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.

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).

Prime Contractor Signature

Print Name

Title

Date

Subcontractor Signature

Print Name

Title

Date

IA SRF6100-3

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.)
 * If no DBE was chosen by the Prime Contractor to be utilized for this project, then this form is not required to be submitted.

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 DBE¹ subcontractors² 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.

Prime Contractor Name: _____

Project Name: _____

Bid/Proposal No.: _____ Assistance Agreement ID No. (if known): _____

Point of Contact: _____

Address: _____

Telephone No.: _____ Email: _____

Issuing/Funding Entity: _____

I have identified potential DBE certified subcontractors Yes No

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

Subcontractor Name/ Company Name	Company Address/Phone/Email	Estimated Dollar Amount	Currently DBE Certified?
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

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.

IA SRF6100-4

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).

Prime Contractor Signature

Print Name

Title

Date

IA SRF6100-4

Attachment 6
SRF Required Front-End Specifications
 (This form is for the voluntary use of DBE Subcontractors.)

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 DBE¹ subcontractor² 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.

Subcontractor Name: _____
 Project Name: _____
 Bid/Proposal No.: _____ Assistance Agreement ID No. (if known): _____
 Point of Contact: _____
 Address: _____
 Telephone No.: _____ Email: _____
 Prime Contractor Name: _____
 Issuing/Funding Entity: _____

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor

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.

IA SRF6100-2

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

Subcontractor Signature

Print Name

Title

Date

Return to: Regional Coordinator, Small Business Utilization, U.S. Environmental Protection Agency, Region 7, 11201
Renner Blvd, Lenexa KS 66219

IA SRF6100-2

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;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - 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 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.
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 timetable 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.
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 Offeror's 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.
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, 19793.1
- From Apr. 1, 1979 until March 31, 19805.0
- From Apr. 1, 1980 until March 31, 19816.9

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 their 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	Goal %
096 Dubuque IA:	
SMSA Counties:	
2200 Dubuque, IA	0.6
IA Dubuque	
Non-SMSA Counties	0.5

IA Allamakee, IA Clayton, IA Delaware, IA Jackson IA Winneshiek

099 Davenport Rock Island Moline, IA-IL:

SMSA Counties:

1960 Davenport Rock Island Moline, IA-IL 4.6

IL Henry, IL Rock Island Moline, IA Scott

Non-SMA Counties 3.4

IL Carroll, IL Hancock, IL Henderson, IL Mercer, IL Whiteside, IA Clinton, IA Des Moines, IA Henry, IA Lee, IA Louisa, IA Muscatine, MO Clark

100 Cedar Rapids, IA:

SMSA Counties:

1360 Cedar Rapids, IA 1.7

IA Linn

Non-SMSA Counties 1.5

IA Benton, IA Cedar, IA Iowa, IA Johnson, IA Jones, IA Washington

101 Waterloo, IA:

SMSA Counties:

8920 Waterloo-Cedar Falls, IA..... 4.7

IA Black Hawk

Non-SMSA Counties 2.0

IA Bremer, IA Buchanan, IA Butler, IA Cerro Gordo, IA Chickasaw, IA Fayette, IA Floyd, IA Franklin, IA Grundy, IA Hancock, IA Hardin, IA Howard, IA Mitchell, IA Winnebago, IA Worth

102 Fort Dodge, IA:

Non-SMSA Counties 0.4

IA Buena Vista, IA Calhoun, IA Carroll, IA Clay, IA Dickinson, IA Emmet, IA Greene, IA Hamilton, IA Humboldt, IA Kossuth, IA Palo Alto, IA Pocahontas, IA Sac, IA Webster, IA Wright

103 Sioux City, IA:

SMSA Counties:

7720 Sioux City, IA-NE 1.9

IA Woodbury, NE Dakota

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 Counties5.3

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 attached hereto 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) (A) 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 predetermined 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 hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the 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 journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate 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).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.
- (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://sam.gov>.

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.

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 _____ (“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 Contactor 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. Xxx
2. Xxx
3. Xxx

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 US and providing detailed information on the steps involved.

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



Template American Iron and Steel Certification Letter



On Manufacturer's Letterhead

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

References the SRF Project

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:

Quantity	Description	Manufacturing Processes	Location Where Processes Occurred
3 count	AB123456 4" Gate Valve	Melting, poured, machined	Ironville, OH
60 count	XY654321 Reinforced Concrete Manhole	Melted, rolled, fabricated	Steel City, IA
60 count	XZ123456 Manhole Cover	Melted, cast, finished	Stainless, MS
1200 linear feet	AB654321 4" Ductile Iron Water Pipe	Melted, rolled, finished	Pipetown, CA

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.

Specifies the Products and Quantities

On behalf of IRON & STEEL, INC.,

Signature of Manufacturer's Representative

Jane Smith
Jane Smith
Product Quality Manager

Specifies the Manufacturing Processes and the U.S. Locations Where They Were Performed

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 – 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 Incidentals
1	Choose an item.	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2	Choose an item.	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
3	Choose an item.	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
4	Choose an item.	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
5	Choose an item.	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

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.

SRF Applicant:			
SRF Project #:		Submitted By:	
Date:		Individual Contractor De Minimis List	Final De Minimis List for SRF Project
Total Materials Cost:		Total amount claimed as De Minimis Incidental Components:	Percent: (must be 5% or less of total materials cost)

	Contractor Name	Covered Products	Description of Covered Products <i>(list each item type separately)</i>	Date Purchased	Individual Item/Unit Cost	Quantity Claimed as Incidental	Dollar Amount Incidental Components
<i>Example</i>	<i>JB Construction</i>	<i>Construction materials</i>	<i>Steel Doors</i>	<i>1-21-2020</i>	<i>\$500</i>	<i>5</i>	<i>\$2500</i>
1		Choose an item.					
2		Choose an item.					
3		Choose an item.					

These documents are available online at <http://www.iowasrf.com/documents-and-guides/>

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://sam.gov>.

- (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.

Signature

Date

Printed Name

Title

Davis-Bacon Prevailing Wage Rates for Muscatine County, Iowa

Construction Types: Heavy and Highway

Date: 01-03-2025

General Decision Number: IA20250081

Source:

<https://SAM.gov>

Superseded General Decision Number: IA20240081

State: Iowa

Construction Types: Heavy and Highway

Counties: Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Black Hawk, Boone, Bremer, Buchanan, Buena Vista, Butler, Calhoun, Carroll, Cass, Cedar, Cerro Gordo, Cherokee, Chickasaw, Clarke, Clay, Clayton, Clinton, Crawford, Dallas, Davis, Decatur, Delaware, Des Moines, Dickinson, Dubuque, Emmet, Fayette, Floyd, Franklin, Fremont, Greene, Grundy, Guthrie, Hamilton, Hancock, Hardin, Harrison, Henry, Howard, Humboldt, Ida, Iowa, Jackson, Jasper, Jefferson, Johnson, Jones, Keokuk, Kossuth, Lee, Linn, Louisa, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Mills, Mitchell, Monona, Monroe, Montgomery, Muscatine, O'Brien, Osceola, Page, Palo Alto, Plymouth, Pocahontas, Polk, Pottawattamie, Poweshiek, Ringgold, Sac, Shelby, Sioux, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, Wayne, Webster, Winnebago, Winneshiek, Woodbury, Worth and Wright Counties in Iowa.

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)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">◆ Executive Order 14026 generally applies to the contract.◆ The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">◆ Executive Order 13658 generally applies to the contract.◆ The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the

ZONE 5		
GROUP A.....	\$ 23.52	9.87
GROUP AA.....	\$ 25.52	9.87
GROUP B.....	\$ 20.78	9.87
GROUP C.....	\$ 19.93	9.87

POWER EQUIPMENT OPERATOR

ZONE 1		
GROUP A.....	\$ 35.50	16.50
GROUP B.....	\$ 33.95	16.50
GROUP C.....	\$ 31.45	16.50
GROUP D.....	\$ 31.45	16.50
ZONE 2		
GROUP A.....	\$ 35.30	16.50
GROUP B.....	\$ 33.70	16.50
GROUP C.....	\$ 31.15	16.50
GROUP D.....	\$ 31.15	16.50
ZONE 3		
GROUP A.....	\$ 32.50	28.20
GROUP B.....	\$ 30.70	28.20
GROUP C.....	\$ 29.70	28.20
GROUP D.....	\$ 29.70	28.20
ZONE 4		
GROUP A.....	\$ 32.85	16.95
GROUP B.....	\$ 31.71	16.95
GROUP C.....	\$ 29.63	16.95
GROUP D.....	\$ 29.63	16.95
ZONE 5		
GROUP A.....	\$ 30.87	13.25
GROUP B.....	\$ 29.83	13.25
GROUP C.....	\$ 28.10	13.25
GROUP D.....	\$ 27.10	13.25

TRUCK DRIVER (AND PAVEMENT MARKING DRIVER/SWITCHPERSON)

ZONE 1.....	\$ 26.26	12.59
ZONE 2		
.....	\$ 26.26	12.59
ZONE 3.....	\$ 26.26	12.59
ZONE 4.....	\$ 26.26	9.04
ZONE 5		
.....	\$ 24.50	9.04

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
- GROUP A - Carpenter tender on bridges and box culverts; CCTV* sewer inspection operator; 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; mason tender (brick/stone), powderman tender; powderman/blaster; sign erector; saw operator; {(Zones 4 and 5) Skilled pipelayer (sewer, water, and conduits); tunnel laborer; asbestos abatement worker}. *new labor classification (CCTV: closed circuit television)

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 buggyman; 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 and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint stripers; 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 (off 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 4 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 4 cu. yd.); scraper (12 cu. yd. and over or finish); Self-propelled rotary mixer/road reclaimer; sidebroom 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 PILEDRIVERMEN, or IRONWORKERS (ZONE 5)
Setting of structural steel; any welding incidental to bridge or culvert construction; setting concrete beams.

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

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

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

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME

refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

=====

END OF GENERAL DECISION"

PART 1 GENERAL

1.01 UNIT PRICE REQUIREMENTS

- A. Items of Work described herein are specifically listed in the Contract for separate measurement and payment.
- B. No other items of Work required by Contract Documents shall be measured or paid for as a separate item but shall be included as part of listed unit price item to which Work pertains. Failure to list all such related Work in the following descriptions of unit price items shall not invalidate this stipulation.
- C. Take measurements, compute quantities, and submit to City Engineer. City Engineer will verify measurements and quantities.
- D. The unit item code (XXXX-X-X) refers to the following:
 - 1. First four numbers: SUDAS Standard Specifications Section number.
 - 2. Second letter and number: Pay item category within SUDAS Specifications Section under article 1.08 Measurement and Payment.
 - 3. Note, the second number may not be present for every item.
- E. All the listed requirements within the referenced SUDAS Standard Specifications Sections are applicable in their entirety unless otherwise noted in the contract documents.

1.02 DESCRIPTION OF UNIT PRICE ITEMS (ESTIMATE REFERENCE NOTES)

- A. See C sheets for Estimate Reference Notes

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SUBMITTAL PROCEDURES

- A. Submit electronically when required by Specification Sections. Contact City Resident Project Representative (Engineer), for submittal instructions. Shop drawing submittals shall be provided to Owner's Engineering Consultant (Design Engineer).
 - 1. Ms. Karmen K Heim with Stanley Consultants, Inc. heimkarmen@stanleygroup.com
- B. Definition of Engineer for shop drawings submittal review applies to Design Engineer or Owner's Engineering Consultant unless otherwise instructed.
- C. Engineer will make internal distribution to the Owner and other interested parties.
- D. Submittals shall be in English language.
- E. Weights, measures, and units shall be English units with SI metric values following in parenthesis.
- F. Graphics symbols for electrical and electronic diagrams shall conform to ANSI Y32.2/IEEE 315/CSA Z99.
- G. Refer to SUDAS specifications Section 1050 1.05, and Section 1070 1.10 for shop drawing requirements.

1.02 CONTRACTOR RESPONSIBILITIES

- A. Review submittals prior to submission.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance to Specifications.
- C. Coordinate each submittal with other submittals and with requirements of Work and of Contract Documents.
- D. Notify Engineer in writing, at time of submission, of any deviations in submittals from requirements of Contract Documents. Any such deviations permitted by Engineer will require modifications of Contract Documents.
- E. Provide space on Shop Drawings for Contractor and Engineer stamps.
- F. When Shop Drawings are revised for resubmission, identify all changes made since previous submission.
- G. Submittals containing language imposing duties on others (such as verification of dimensions or supply of related information) inconsistent with contract language shall be null and void.
- H. Submittals shall not be used as media for inquiries for information or for verification of information that must be supplied by others to Contractor. Inquiries or verification of information shall be made by separate Contractor submittal using Request for Information (RFI) process.
- I. Begin no fabrication or Work which requires submittal review until return of submittals by Engineer with stamp, as either "Reviewed", "Reviewed as Noted", or "Reviewed as Noted-Resubmit."

- J. Distribute copies of reviewed submittals that carry Engineer stamp as either "Reviewed" or "Reviewed as Noted" as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.03 ENGINEER DUTIES

- A. Review required submittals with reasonable promptness and in accord with schedule, only for general conformance to design concept of Project and compliance with information given in Contract Documents. Review shall not extend to means, methods, sequences, techniques, or procedures of construction or to safety precautions or program incident thereto. Review of a separate item as such will not indicate approval of assembly in which item functions.
- B. Affix stamp and initials or signature, and indicate requirements for resubmittal, or review of submittal. Engineer's action on submittals is classified as follows:
 - 1. Reviewed: Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents. Contractor may proceed with fabrication of work in submittal.
 - 2. Reviewed As Noted: Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents, except as noted by reviewer. Contractor may proceed with fabrication of work in submittal with modifications and corrections as indicated by reviewer.
 - 3. Reviewed As Noted-Resubmit: Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents, except as noted by reviewer. Contractor may proceed with fabrication of work in submittal with modifications and corrections as indicated by reviewer. Contractor shall make any corrections indicated by reviewer and resubmit for review.
 - 4. Resubmit: Submittal has been reviewed and appears not to be in conformance to design concept of Project or with Contract Documents. Contractor shall not proceed with fabrication of work in submittal, but instead shall make any corrections required by reviewer and resubmit for review.
 - 5. Returned without Review: Submittal is being returned without having been reviewed because: 1) not required by Contract Documents; 2) grossly incomplete; 3) indicates no attempt at conformance to Contract Documents; 4) cannot be reproduced; 5) lacks Contractor's completed approval stamp; or 6) lacks design professional's seal when required by law or Contract Documents. If submittal is required by Contract Documents, Contractor shall not proceed with Work as detailed in submittal, but instead shall correct defects and resubmit for review.
 - 6. For Information Only: Submittal has not been reviewed but is being retained for informational purposes only.
 - 7. Void: Submittal is voided because it is no longer required or has been superseded by another submittal.
- C. Return one electronic copy of submittals to Contractor. Contractor shall make additional distribution as required.
- D. Review of submittals shall not relieve Contractor from responsibility for any variation from Contract Documents unless Contractor has, in writing, called Engineer's attention to such variation at time of submission, and Engineer has given written concurrence pursuant to Contract Documents to specific variation, nor shall any concurrence by Engineer or other reviewer relieve Contractor from responsibility for errors or omissions in submittals.

1.04 SHOP DRAWINGS SUBMITTALS

- A. Submit for review for limited purpose of checking for conformance to information given and design concept expressed in Contract Documents. Produce copies and distribute in accordance with article "Submittal Procedures" and for record documents purposes as described in Section 01 77 00.
- B. Designate in construction schedule, or in separate coordinated submittal schedule, dates for submission and dates that reviewed submittals will be needed.

- C. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in Work or in work of other contractors.
- D. Present in clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information to enable review of information as required.
- E. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Drawings.
- F. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- G. Schedule submittals to expedite Project. Coordinate submission of related items.
- H. For each submittal for review, allow a minimum of 15 days to complete review process.
- I. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- J. Shop Drawings shall be submitted in electronic format.
 - 1. Submit electronic copy to Engineer. Specific instructions will be provided after award.
 - 2. Submittal Transmittal form (see pdf attached) shall be provided in Word format for each submittal. MSWord template will be provided after award.
 - 3. Text documents shall be submitted in .pdf format except for the shop drawing Transmittal Form.
 - 4. Drawings shall be submitted in .pdf or .tif format.
 - 5. Electronic submittal shall be suitable for reproduction in black and white.
 - 6. Samples may be submitted to Engineer.
- K. Submittals shall contain:
 - 1. Date of submission and dates of any previous submissions.
 - 2. Project title and number.
 - 3. Contract identification.
 - 4. Names of:
 - a. Contractor.
 - b. Supplier.
 - c. Manufacturer.
 - 5. Identification of product, with Specification section number and article number.
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of Work or materials.
 - 8. Applicable standards, such as ASTM or Federal Specification numbers.
 - 9. Identification of deviations from Contract Documents.
 - 10. Identification of revisions on resubmittals.
 - 11. An 8" x 3" blank space for Contractor and reviewer stamps.
 - 12. Indication of Contractor's approval, initialed or signed, with wording substantially as follows:

"Contractor represents to Owner and Engineer that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, or assumes full responsibility for doing so and has reviewed or coordinated each submittal with requirements of Work and Contract Documents."
 - 13. If Contract Documents include performance specifications stating required results which can be verified as meeting stipulated criteria, so that further design by Contractor prior to fabrication is necessary, Submittal depicting such design must be prepared under seal of professional engineer licensed in appropriate state and Submittal shall be signed and sealed in accordance with applicable regulations and with following certification statement:

"I hereby certify that this engineering document was prepared by me or under my direct personal supervision, that I am a duly licensed professional engineer under

laws of state of Iowa and I accept responsibility for adequacy of this document to meet criteria stipulated in Contract Documents."

L. Product Data:

1. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
2. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

M. Design data:

1. Submit for Engineer's knowledge as contract administrator or for Owner.
2. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

N. Test reports:

1. Submit for Engineer's knowledge as contract administrator or for Owner.
2. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

O. Certificates:

1. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor.
2. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
3. Certificates may be recent or previous test results on material or product, but must be acceptable to reviewer.

P. Manufacturer's instructions:

1. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
2. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

Q. Manufacturer's field reports:

1. Submit report within 30 days of observation for information.
2. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

R. Operations and maintenance manuals:

1. Designate in construction schedule, or in separate coordinated schedule, dates for submission and dates that reviewed operations and maintenance manuals will be needed.
2. Operations and maintenance manuals shall be presented in clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information to enable reviewer to review information as required. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Drawings.

1.05 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in submittals required by Engineer and resubmit until stamped as either "Reviewed," "Reviewed as Noted," or "For Information Only."
- B. Text and depictions changed on Submittal shall be back-circled (clouded).
- C. Engineer will assume that portions of Submittal not back-circled have not been changed by Contractor from previous submission.
- D. Indicate revision number and date in document revision block.

1.06 DISTRIBUTION

- A. Distribute reproductions of Shop Drawings which carry Engineer stamp as either "Reviewed" or "Reviewed as Noted" to:
 - 1. Job site file.
 - 2. Record Documents file.
 - 3. Other affected contractors.
 - 4. Subcontractors.
 - 5. Supplier or fabricator.
- B. Distribute Samples which carry Engineer stamp as either "Reviewed" or "Reviewed as Noted" as directed by Engineer.

1.07 PHOTOGRAPHIC DOCUMENTATION

- A. At Contractor's option, provide photographs of Site and construction throughout progress of Work in a format acceptable to Engineer.
- B. At Contractor's option, submit photographs with Application for Payment demonstrating completion of pay items.
- C. Deliver digital files to Owner with Project Record Documents. Catalog and index in chronological sequence; provide typed table of contents.

1.08 VIDEO DOCUMENTATION OF EXISTING CONDITIONS

- A. Prior to construction, perform video recording along route of new sanitary and storm sewers, new pavement, driveway, and sidewalks, and haul routes. Recording shall document significant features that may be affected by construction activity.
- B. See Special Provisions section 00 75 00 for requirements.

1.09 SUBMITTAL TRANSMITTAL FORM PROCEDURES

- A. Submittals shall be accompanied by completed copies of Submittal Transmittal form, bound herein. An electronic version of transmittal form is available and may be obtained from Engineer. Reproduce additional copies required.
- B. Submit copies of transmittal form for initial submittals and resubmittals. Sequentially number transmittal form. Revise submittals with original number and sequential alphabetic suffix.
- C. Prior to submittal, complete information under heading "Contractor's Transmittal."
- D. Engineer will complete information under "Reviewer's Action."
- E. Do not include submittals for more than one section of Specifications on Submittal Transmittal form.
- F. Minimize file size of submittal shall be 10 MB or less. Submit shop drawings in small logical batches rather than large batches that require the Engineering reviewer to organize. Submittals should be organized by Contractor and their subcontractors or suppliers.
- G. Identify project title, location, and number and contract title and number.
- H. Identify preparer name and, submittal number, including preparer's submittal revision number.
- I. A brief description under "Title" should clearly identify specific application of equipment or material covered by Submittal, utilizing where possible same title used in Drawings and Specifications.

- J. Identify Specification Section number.
- K. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of Work and Contract Documents.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 TEMPORARY ELECTRICITY

- A. Provide and pay for power service required from as needed for construction operation. Contractor is responsible for making arrangements with local electric utility if a source of power is needed.

1.02 TEMPORARY WATER SERVICE

- A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations.

1.03 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. At end of construction, remove enclosure and return site to original condition.
- C. See SUDAS 1070, 2.01 for worker sanitary conveniences.

1.04 MAINTENANCE OF SERVICES

- A. See SUDAS Section 1070, 2.14 and Section 11,030 for maintaining postal service and solid waste collection during construction.

1.05 FIELD OFFICES AND SHEDS

- A. If Contractor requires a field office or shed, coordinate location with Owner.

1.06 VEHICULAR ACCESS

- A. Extend and relocate as Work progress requires, provide detours as necessary for unimpeded traffic flow. Location as approved by Owner.
- B. Provide unimpeded access for emergency vehicles. Maintain 20' (6 m) width driveways with turning space between and around combustible materials.
- C. Provide and maintain access to fire hydrants and control valves free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Existing on-site roads may be used for construction traffic.

1.07 CONSTRUCTION PARKING

- A. Arrange for temporary surface parking areas to accommodate construction personnel. Locate as approved by Owner.
- B. When site space is not adequate, provide additional off-site parking.
- C. Use of existing on-site streets and driveways used for construction traffic is not permitted. Tracked vehicles not allowed on paved areas.
- D. Use of existing parking facilities used by construction personnel is not permitted.
- E. Do not allow heavy vehicles or construction equipment in parking areas.

- F. Do not allow vehicle parking on existing pavement.
- G. Permanent pavements and parking facilities:
 - 1. Prior to Substantial Completion the base for permanent roads and parking areas may be used for construction traffic.
 - 2. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
- H. Maintenance:
 - 1. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- I. Removal, repair:
 - 1. Remove temporary materials and construction when permanent paving is usable.
 - 2. Repair existing and permanent facilities damaged by use, to original or condition.
- J. Mud from site vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.08 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

1.09 PROJECT IDENTIFICATION

- A. Project identification sign:
 - 1. Provided by Contractor for project use.
 - 2. Two printed signs of size, construction, and design as shown on Drawings.
 - 3. Size lettering to provide legibility from at least 30' (9 m) distance.
 - 4. Content:
 - a. Project title, logo and name of Owner as indicated on Contract Documents.
 - b. Company names of Engineer
 - c. Name of prime Contractor.
 - 5. Graphic design, logo, name, and byline colors, style of lettering: As shown on Drawings.
 - 6. Lettering: Series C of Standard Alphabet for Highway Signs, Public Roads Administration, Federal Works Agency.
 - 7. Obtain approval from Owner for final approval of sign content.
- B. Design sign and structure to withstand 60 miles/hr (100 km/hr) wind velocity.
- C. Sign printer: Experienced as a professional sign printer for minimum 3 years.
- D. Finishes, printed: Adequate to withstand weathering, fading, and chipping for duration of construction.
- E. Show content, layout, lettering, color.
- F. Sign materials:
 - 1. Structure and framing: Use new structurally adequate materials
 - 2. Sign surfaces: Exterior grade plywood with medium density overlay, minimum 3/4" (19 mm) thick, standard large sizes to minimize joints.
 - 3. Rough hardware: Galvanized.
 - 4. Paints and primers: As shown on Drawings.

- G. Installation:
 - 1. Install project identification sign prior to mobilizing to Project site.
 - 2. Erect at location determined by the Owner.
 - 3. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
 - 4. Install sign surface plumb and level, with butt joints. Anchor securely.
 - 5. Paint exposed surfaces of sign, supports, and framing.
- H. Maintenance: Maintain signs and supports clean, repair deterioration and damage.
- I. Removal: Remove signs, framing, supports, and foundations at completion of Project and restore area.
- J. Refer to detail on A.02 drawings for project sign requirements.

1.10 TRAFFIC REGULATION

- A. Reference SUDAS Section 1070, 2.06 and to SUDAS Section 8030 for additional traffic control requirements and J series drawings.
- B. Quality assurance:
 - 1. IDOT Standard Specifications.
 - 2. U. S. Department of Transportation Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways," current edition, as amended.
- C. Traffic control devices may be new or used but shall meet standards of IDOT Standard Specification.
- D. Portable generators shall not be used to power traffic control devices within 300' of residential dwellings, including apartments, between hours of 10:00 pm and 7:00 am.
- E. Owner will furnish "NO PARKING" signs to facilitate removal of parked cars ahead of scheduled work. Contractor responsible for installation and maintenance of signs 48 hours in advance of when cars must be removed. Contractor shall contact the City's Roadway Maintenance Supervisor, City of Muscatine Public Works Department (563-263-8933) prior to installation of "NO PARKING" signs.
- F. Monitor condition of traffic control facilities at all times, including non-work hours. Repair or replace as necessary.
- G. Signs, signals, and devices:
 - 1. Post-mounted and-wall mounted traffic control and informational signs: At approaches to site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
 - 2. Traffic cones and drums, flares and lights: As approved by local jurisdictions.
 - 3. Flagger equipment: As required by local jurisdictions.
 - 4. Relocate as Work progresses, to maintain effective traffic control.
- H. Flaggers: Provide trained and equipped flaggers to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- I. Flares and lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
- J. Haul routes:
 - 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access. Determine haul roads with approval of agency having jurisdiction over proposed roadway.
 - 2. Confine construction traffic to designated haul routes.

3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.
4. Make condition survey of haul roads prior to use and document with necessary photographs and written descriptions. Refer to Special Provisions for details on Existing Conditions Video Record.
5. Keep reasonably free from dirt, dust, mud, and other debris from construction operations.
6. Clean a minimum of twice a week.
7. Repair damaged haul routes to match existing conditions before use.

K. Removal:

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.
3. Remove post settings to a depth of 2' (600 mm).

1.11 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.12 ENCLOSURES AND FENCING

- A. Construction: Plastic construction netting.
- B. Provide a minimum of 4' (1.2 m) high fence around open excavations and areas of work that require protection.
- C. Maintain protective construction fencing of open excavations at the end of workday and during periods of no construction activity.

1.13 SECURITY

- A. Security program:
 1. Protect Work existing premises and Owner's operations from theft, vandalism, and unauthorized entry.
 2. Initiate program in coordination with Owner's existing security system at project mobilization.
 3. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.
- B. Entry control:
 1. Restrict entrance of persons and vehicles into Project site
 2. Allow entrance only to authorized persons with proper identification.
 3. Owner and Contractor shall control entrance of persons and vehicles related to Owner's operations.

1.14 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.15 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.
- C. Refer to SUDAS Section 1070, 2.10 and Section 9040 for Dust Control.

1.16 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize amount of bare soil exposed at one time.
- C. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Inspect project site weekly to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- F. Provide methods, means and measures to minimize erosion and sedimentation of soils disturbed resulting from the project construction activities. See Storm Water Pollution Prevention Plan (SWPPP) (Sheet CE.01), and erosion control plans (RR Sheets) and SUDAS Section 9040 for erosion control requirements.
- G. Utilize SWPPP forms for contractor and subcontractor certification, contractor training log, site inspection report, and SWPPP amendment log. Example forms are provided in Project Manual.

1.17 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.18 PEST CONTROL

- A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work.

1.19 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.20 RODENT CONTROL

- A. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.21 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2' (600 mm). Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.

- D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

WEST HILL AREA
SANITARY AND STORM SEWER SEPARATION
PHASE 6D

MUSCATINE, IOWA

Owner Certification Statement – Storm Water Pollution Prevention Plan

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.

SIGNATURE (City of Muscatine Representative)

DATE

NAME (City of Muscatine Representative)

TITLE

City of Muscatine, Iowa
NAME

TELEPHONE NO.

COMPANY ADDRESS

SITE ADDRESS

KEEP A COPY OF THIS SIGNED CERTIFICATION WITH THE STORM WATER POLLUTION PREVENTION PLAN.

WEST HILL AREA
SANITARY AND STORM SEWER SEPARATION
PHASE 6D

MUSCATINE, IOWA

Certification Statement

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 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 the 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.

SIGNATURE

DATE

NAME

TITLE

COMPANY NAME

TELEPHONE NO.

COMPANY ADDRESS

SITE ADDRESS

KEEP A COPY OF THIS SIGNED CERTIFICATION WITH THE STORM WATER POLLUTION PREVENTION PLAN. FORWARD A COPY TO THE OWNER.

Stormwater Construction Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		Location	
Date of Inspection		Start/End Time	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection:			
<input type="checkbox"/> Regular <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, provide:			
Storm Start Date & Time:	Storm Duration (hrs):	Approximate Amount of Precipitation (in):	
Weather at time of this inspection?			
<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds			
<input type="checkbox"/> Other: _____ Temperature: _____			
Have any discharges occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, describe:			
Are there any discharges at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, describe:			

Site-specific BMPs

- Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.
- Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
13		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
15		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
16		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
17		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
18		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
19		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
20		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Are discharge points and receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is the construction exit preventing sediment from being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

“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.”

Print name and title: _____

Signature: _____ **Date:** _____

Stormwater Discharge from Construction Activities

SWPPP Amendment Log

Project Name: _____

Project Number: _____

Amendment No.	Date	Brief Description of Amendment	Prepared By

The Amendment Log should include additions of new BMPs, replacement of failed BMPs, significant changes in the activities or timing on the project, changes in personnel, updates to site maps, etc.

SWPPP is a living document – all changes and amendments are required by EPA to be documented.

PART 1 GENERAL

1.01 SUBSTANTIAL COMPLETION

- A. When the Contractor considers the Work or designated portion thereof is substantially complete, submit written notice, with list of items to be completed or corrected.
- B. Within reasonable time, Engineer will inspect to determine status of completion. Duties and responsibilities assigned to the Engineer during construction, as defined in the Contract, are the responsibility of the Owner or Owner's Representative.
- C. Should Engineer determine that Work is not substantially complete, it will promptly notify Contractor in writing, giving reasons therefor.
- D. Contractor shall remedy deficiencies, and send second written notice of substantial completion, and Engineer will reinspect Work.
- E. When Engineer determines that Work is substantially complete, it will prepare Certificate of Substantial Completion.

1.02 FINAL COMPLETION

- A. When the Contractor considers the Work is complete, it shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents, and deficiencies listed with Certificate of Substantial Completion have been corrected.
 - 4. Equipment and systems have been tested in presence of Owner's representative and are operational.
 - 5. Work is complete and ready for final inspection.
- B. Engineer will inspect to verify status of completion with reasonable promptness.
- C. Should Engineer consider that Work is incomplete or defective, it will promptly notify Contractor in writing, listing incomplete or defective Work.
- D. Contractor shall take immediate steps to remedy deficiencies and send second written certification that Work is complete, and Engineer will reinspect Work.
- E. When Engineer finds Work is acceptable, it will consider closeout submittals.

1.03 REINSPECTION FEES

- A. Should Engineer perform reinspections due to failure of Work to comply with claims made by Contractor, Owner will compensate Engineer for such additional services and deduct amount of such compensation from final payment to Contractor.

1.04 CLOSEOUT SUBMITTALS

- A. Evidence of compliance with requirements of governing authorities:
- B. Project record documents: In accordance with Article 1.05.
- C. Warranties and Bonds: In accordance with Article 1.06.

- D. Evidence of payment and release of liens: In lieu of releases or waivers of Liens, if approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor demonstrating subcontractors and suppliers have been paid.
- E. Consent of Surety to final payment.
- F. Certificates of insurance for products and completed operations.

1.05 PROJECT RECORD DOCUMENTS

- A. Contractor shall maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings: Legibly mark each item to record actual construction including:
 - 1. Size, type, measured horizontal and vertical locations of all underground utilities and appurtenances encountered in excavations, referenced to permanent surface improvements.
 - 2. Field changes of dimension and detail.
 - 3. Details not on original Contract Drawings.
 - 4. Rim elevations of all manholes and inlets and invert elevations on all pipes entering or exiting all new or modified manholes and inlets.
 - 5. Coordinates for location of all new or modified manholes.
 - 6. Station, size, depth, and location of all sanitary services connected to new sanitary sewers.
 - 7. Station, size, depth, and location of all storm sewers connected to new storm sewers.
 - 8. Information provided shall be compatible with City of Muscatine datum and Muscatine Area Geographic Information Consortium (MAGIC).
 - 9. Drawings will be electronically prepared by licensed land surveyor. Contractor shall coordinate directly with land surveyor on Record Drawing production and data collection.
 - 10. Provide one electronic copy of Record Drawings to Owner
- G. Submit documents to Engineer prior to substantial completion.
- H. Failure to keep record drawings up-to-date as the construction progresses shall be grounds for denial of payment.

1.06 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.

- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify that documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Provide Table of Contents and assemble in 3-D side ring binder with durable cover.
- F. Submit prior to final Application for Payment.
- G. Time of Submittals:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty or bond period.

1.07 ADJUSTMENT OF ACCOUNTS

- A. Submit final statement of accounting, reflecting adjustments to Contract Price:
- B. Original Contract Price.
- C. Additions and deductions resulting from:
 - 1. Previous Change Orders.
 - 2. Allowances.
 - 3. Unit prices.
 - 4. Deductions for uncorrected Work.
 - 5. Penalties and bonuses.
 - 6. Deductions for liquidated damages.
 - 7. Deductions for reinspection payments.
 - 8. Other adjustments.
- D. Total Contract Price, as adjusted.
- E. Previous payments.
- F. Sum remaining due.
- G. Engineer will issue final Change Order, reflecting approved adjustments to Contract Price not previously made by Change Orders.

1.08 APPLICATION FOR FINAL PAYMENT

- A. Submit Application for Final Payment in accordance with procedures and requirements in conditions of Contract.

PART 2 PRODUCTS

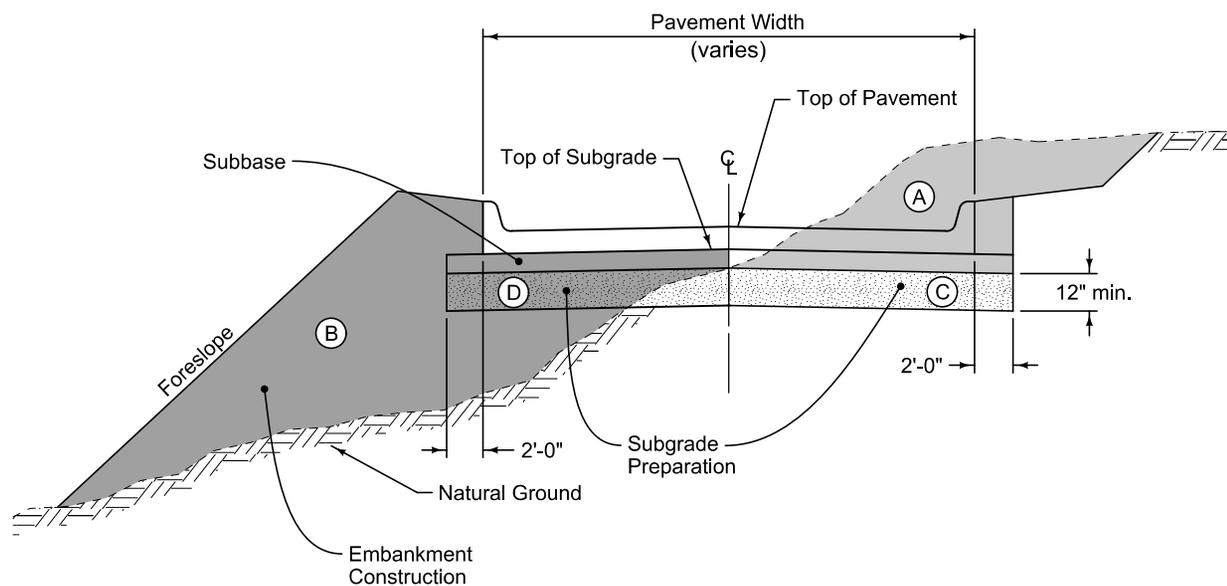
NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

West Hill Area – Sanitary and Storm Sewer Separation – Phase 6D
Applicable SUDAS Details



- ① Embankment Construction: Compact with moisture and density control unless Type A Compaction is specified. Comply with Section 2010, 3.04.
- ② Subgrade Preparation: Construct subgrade according to Section 2010, 3.06.
- ③ Subbase Construction: Construct subbase according to Section 2010, 3.08.

Key

- Excavation
- Fill
- Subgrade preparation

Type of Work	Area	Payment Method
Excavation	Ⓐ	Excavation
Fill	Ⓑ	Included in Excavation or Borrow
Subgrade Preparation	Ⓒ & Ⓓ	Subgrade Preparation

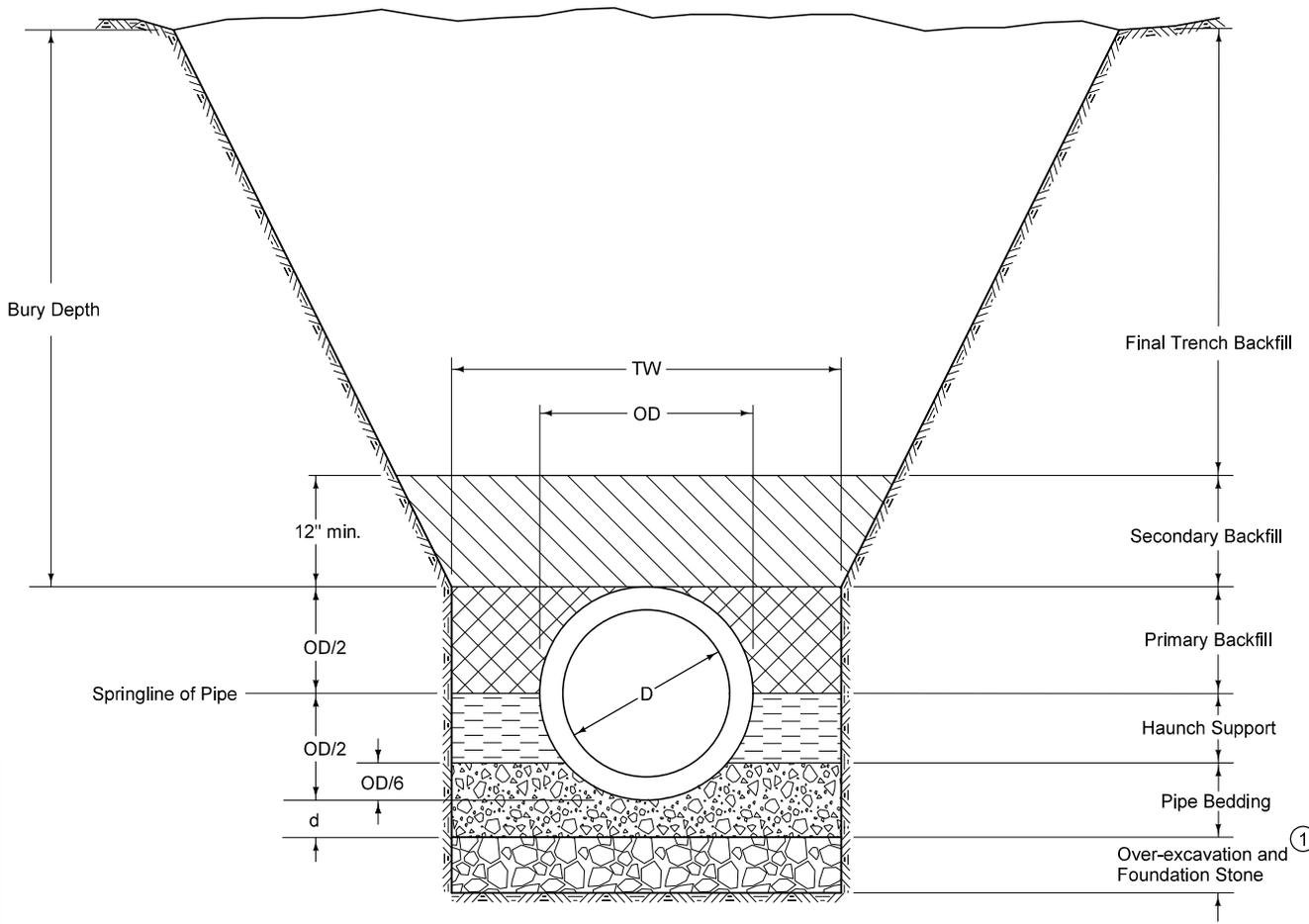
	REVISION
	1 10-21-14
	2010.102
SHEET 1 of 1	

SUDAS Standard Specifications

DESIGNATION OF ROADWAY
EARTHWORK ITEMS

Refer to the contract documents for specific material and placement requirements.

① Required only when specified in the contract documents or when directed by the Engineer.



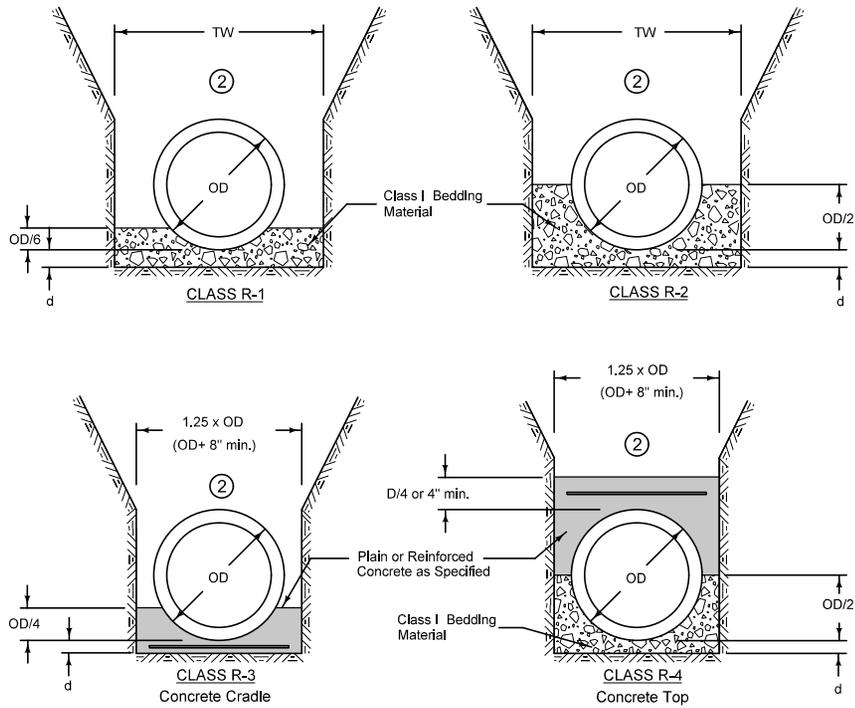
Key

- OD = Outside diameter of pipe
- D = Inside diameter of pipe
- TW = Trench width at top of pipe
- d = Depth of bedding material below pipe

FIGURE 3010.101 SHEET 1 OF 1

SUDAS	IOWADOT	REVISION
		1 04-17-18
FIGURE 3010.101	STANDARD ROAD PLAN	SW-101
		SHEET 1 of 1
<small>REVISIONS: Replaced Iowa DOT and SUDAS logos.</small>		
<i>Paul D. Wigand</i> <small>SUDAS DIRECTOR</small>		<i>Brian Smith</i> <small>DESIGN METHODS ENGINEER</small>
TRENCH BEDDING AND BACKFILL ZONES		

RCP AND VCP CIRCULAR PIPE BEDDING ①



Refer to sheet 2 for bury depth restrictions.

- ① Use Bedding Class R-1 or R-2 unless specified otherwise.
- ② Place remainder of bedding and backfill materials as specified in the contract documents.

Key

- OD = Outside diameter of pipe
- OS = Outside span of pipe
- TW = Trench width at top of pipe:
Min. = OD+18 inches
Max. = 1.25xOD+12 inches OR
54 inches (whichever is greater)
- d = Depth of bedding material below pipe:
OD/8 or OS/8, OR 4 inches
(whichever is greater)

REINFORCED CONCRETE ARCH AND ELLIPTICAL PIPE BEDDING

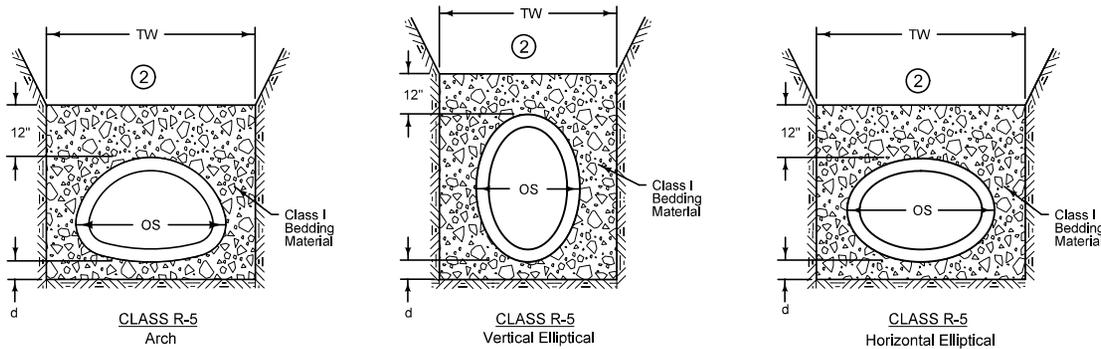


FIGURE 3010.102 SHEET 1 OF 2

SUDAS	IOWADOT	REVISION
		4 04-20-21
FIGURE 3010.102	STANDARD ROAD PLAN	SW-102
		SHEET 1 of 2
REVISIONS: Added note DO NOT USE ON PRIMARY ROADWAYS.		
Fred D. Wigand SUDAS DIRECTOR		Shawn Miller DESIGN METHODS ENGINEER
RIGID GRAVITY PIPE TRENCH BEDDING		

ALLOWABLE BURY DEPTH

CLASS III RCP

Pipe Diameter (in)	Class R-1 Bedding	Class R-2 Bedding	Class R-3 & R-4 Bedding		
			No Steel	As=0.4%	As=1.0%
12	7'	10'	15'	19'	27'
15	8'	10'	16'	19'	27'
18	8'	11'	16'	20'	40'
21	8'	11'	18'	26'	40'
24	8'	12'	23'	36'	40'
27	10'	15'	30'	40'	40'
30	11'	15'	29'	40'	40'
33	11'	15'	28'	40'	40'
36	11'	15'	27'	40'	40'
42	11'	15'	26'	38'	40'
48	11'	15'	26'	36'	40'
54	11'	15'	25'	34'	40'
60	11'	15'	25'	33'	40'
66	11'	15'	24'	32'	40'
72	11'	15'	24'	32'	40'

As = Area of Steel Reinforcing

CLASS IV RCP

Pipe Diameter (in)	Class R-1 Bedding	Class R-2 Bedding	Class R-3 & R-4 Bedding		
			No Steel	As=0.4%	As=1.0%
12	12'	15'	23'	28'	40'
15	12'	16'	23'	30'	40'
18	13'	16'	29'	40'	40'
21	13'	18'	40'	40'	40'
24	16'	23'	40'	40'	40'
27	19'	30'	40'	40'	40'
30	19'	29'	40'	40'	40'
33	19'	28'	40'	40'	40'
36	19'	28'	40'	40'	40'
42	18'	27'	40'	40'	40'
48	18'	26'	40'	40'	40'
54	18'	25'	40'	40'	40'
60	18'	25'	40'	40'	40'
66	18'	25'	40'	40'	40'
72	18'	24'	40'	40'	40'

As = Area of Steel Reinforcing

CLASS V RCP

Pipe Diameter (in)	Class R-1 Bedding	Class R-2 Bedding	Class R-3 & R-4 Bedding		
			No Steel	As=0.4%	As=1.0%
12	18'	23'	35'	40'	40'
15	19'	24'	40'	40'	40'
18	19'	30'	40'	40'	40'
21	25'	40'	40'	40'	40'
24	34'	40'	40'	40'	40'
27	40'	40'	40'	40'	40'
30	40'	40'	40'	40'	40'
33	40'	40'	40'	40'	40'
36	40'	40'	40'	40'	40'
42	37'	40'	40'	40'	40'
48	35'	40'	40'	40'	40'
54	33'	40'	40'	40'	40'
60	32'	40'	40'	40'	40'
66	31'	40'	40'	40'	40'
72	31'	40'	40'	40'	40'

As = Area of Steel Reinforcing

EXTRA STRENGTH VCP

Pipe Dia. (in)	Bedding Class				
	R-1	R-2	R-3 & R-4		
			No Steel	As=0.4%	As=1.0%
6	25'	30'	30'	30'	30'
8	20'	26'	30'	30'	30'
10	18'	23'	30'	30'	30'
12	16'	20'	30'	30'	30'
15	15'	19'	28'	30'	30'
18	14'	18'	30'	30'	30'
21	15'	22'	30'	30'	30'
24	18'	28'	30'	30'	30'
27	20'	30'	30'	30'	30'
30	19'	29'	30'	30'	30'
33	20'	30'	30'	30'	30'
36	20'	30'	30'	30'	30'
39	19'	29'	30'	30'	30'
42	18'	26'	30'	30'	30'

As = Area of Steel Reinforcing

CONCRETE ARCH PIPE

Pipe Size (in x in)	Equiv. Dia. (in)	Pipe Class	
		A-III	A-IV
18 x 11	15	6'	11'
22 x 13	18	6'	11'
26 x 15	21	6'	13'
29 x 18	24	7'	15'
36 x 22	30	8'	15'
44 x 27	36	8'	14'
51 x 31	42	8'	15'
58 x 36	48	8'	15'
65 x 40	54	8'	15'
73 x 45	60	8'	14'
88 x 54	72	9'	14'

Based on Class R-5 bedding

HORIZONTAL ELLIPTICAL RCP

Pipe Size (in x in)	Equiv. Dia. (in)	Pipe Class	
		HE-III	HE-IV
14 x 23	18	12'	22'
19 x 30	24	15'	29'
22 x 34	27	15'	28'
24 x 38	30	15'	27'
27 x 42	33	15'	27'
29 x 45	36	15'	26'
32 x 49	39	15'	26'
34 x 54	42	15'	25'
38 x 60	48	15'	25'
43 x 68	54	15'	24'
48 x 76	60	15'	24'
53 x 83	66	15'	24'
58 x 91	72	15'	24'
63 x 98	78	15'	23'
68 x 106	84	15'	23'

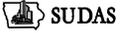
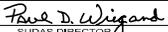
Based on Class R-5 bedding

VERTICAL ELLIPTICAL RCP

Pipe Size (in x in)	Equiv. Dia. (in)	Pipe Class			
		VE-III	VE-IV	VE-V	VE-VI
23 x 14	18	10'	15'	22'	33'
30 x 19	24	10'	16'	34'	40'
34 x 22	27	11'	20'	40'	40'
38 x 24	30	12'	23'	40'	40'
42 x 27	33	15'	30'	40'	40'
45 x 29	36	15'	29'	40'	40'
49 x 32	39	15'	29'	40'	40'
54 x 34	42	15'	28'	40'	40'
60 x 38	48	15'	27'	40'	40'
68 x 43	54	15'	27'	40'	40'
76 x 48	60	15'	26'	40'	40'
83 x 53	66	15'	25'	40'	40'
91 x 58	72	15'	25'	40'	40'
98 x 63	78	15'	25'	40'	40'
106 x 68	84	15'	24'	40'	40'

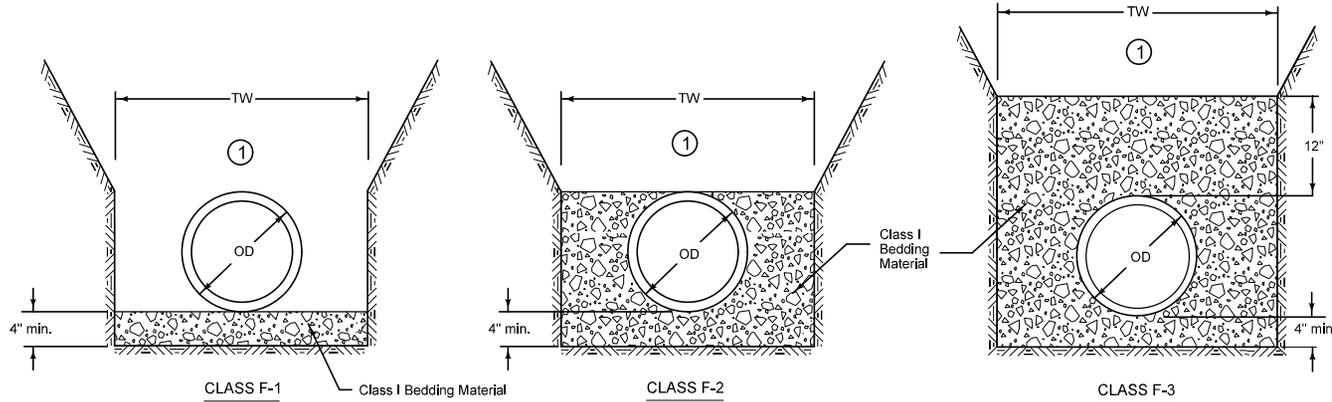
Based on Class R-5 bedding

FIGURE 3010.102 SHEET 2 OF 2

		REVISION
		4 04-20-21
FIGURE 3010.102	STANDARD ROAD PLAN	SW-102
REVISIONS: Added note DO NOT USE ON PRIMARY ROADWAYS.		SHEET 2 of 2
 SUDAS DIRECTOR		 DESIGN METHODS ENGINEER
RIGID GRAVITY PIPE TRENCH BEDDING		

DO NOT USE ON PRIMARY ROADWAYS

BEDDING CLASSES



- ① Place remainder of bedding and backfill materials as specified in the contract documents.
- ② Minimum depth of bury 12 inches or as specified by the manufacturer.

ALLOWABLE BEDDING CLASSES

PIPE MATERIAL	STORM SEWER	SANITARY SEWER
Ductile Iron	F-1, F-2, F-3	F-1, F-2, F-3
HDPE	F-2, F-3	Not allowed
Polypropylene	F-2, F-3	F-3
PVC	F-2, F-3	F-3

Key

OD = Outside diameter of pipe

TW = Trench width at top of pipe:
Min. = OD+18 Inches OR 1.25xOD+12 Inches
(whichever is greater)

ALLOWABLE BURY DEPTH ②

PVC PIPE

Pipe Diameter (in)	ASTM D 3034			ASTM F 679	ASTM F 949	ASTM F 1803	ASTM D 2680
	Solid Wall			Solid Wall	Corrug. Exterior	Closed Profile	Composite (Truss Type)
	SDR 23.5	SDR 26	SDR 35	SDR 35			
8	30'	28'	24'	---	24'	---	32'
10	30'	28'	24'	---	24'	---	32'
12	30'	28'	24'	---	24'	---	32'
15	30'	28'	24'	---	24'	---	32'
18	---	---	---	24'	24'	---	---
21	---	---	---	24'	24'	24'	---
24	---	---	---	24'	24'	24'	---
27	---	---	---	24'	---	24'	---
30	---	---	---	24'	24'	24'	---
33	---	---	---	24'	---	---	---
36	---	---	---	24'	24'	24'	---
42	---	---	---	24'	---	24'	---
48	---	---	---	24'	---	24'	---
54	---	---	---	---	---	24'	---
60	---	---	---	---	---	24'	---

DUCTILE IRON, AWWA C151, CLASS 52

Pipe Diameter (in)	Class F-1 Bedding	Class F-2 Bedding	Class F-3 Bedding
4	40'	40'	40'
6	40'	40'	40'
8	40'	40'	40'
10	40'	40'	40'
12	37'	40'	40'
14	31'	40'	40'
16	28'	37'	40'
18	25'	34'	40'
20	23'	32'	40'
24	20'	29'	38'
30	18'	23'	31'
36	18'	22'	30'
42	17'	21'	29'
48	16'	19'	27'
54	16'	19'	27'

HDPE PIPE

Pipe Diameter (in)	AASHTO M 294
12	8'
15	9'
18	9'
24	9'
30	9'
36	9'
42	8'
48	8'
54	8'
60	8'

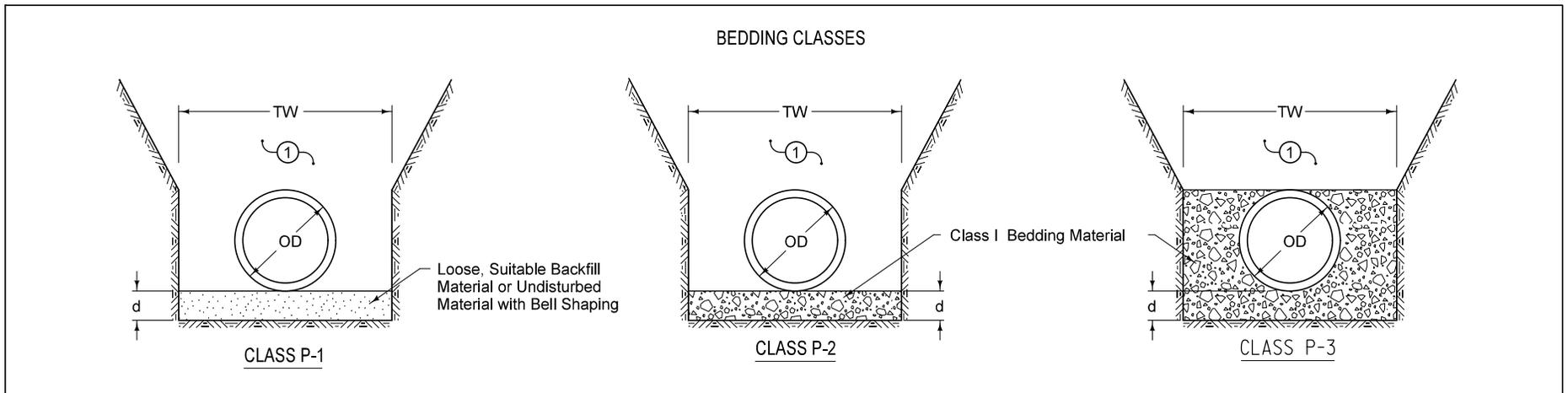
POLYPROPYLENE PIPE

Pipe Diameter (in)	ASTM F 2764
12	24'
15	25'
18	22'
24	20'
30	22'
36	21'
42	22'
48	23'
54	21'
60	21'

FIGURE 3010.103 SHEET 1 OF 1

		REVISION
		4 04-20-21
FIGURE 3010.103	STANDARD ROAD PLAN	SW-103
		SHEET 1 of 1
REVISIONS: Added note DO NOT USE ON PRIMARY ROADWAYS.		
SUDAS DIRECTOR		DESIGN METHODS ENGINEER
FLEXIBLE GRAVITY PIPE TRENCH BEDDING		

DO NOT USE ON PRIMARY ROADWAYS



ALLOWABLE BURY DEPTH

DUCTILE IRON, AWWA C151, CLASS 52				PVC, AWWA C900, DR18			
Pipe Diameter (inches)	Class P-1 Bedding	Class P-2 Bedding	Class P-3 Bedding	Pipe Diameter (inches)	Class P-1 Bedding	Class P-2 Bedding	Class P-3 Bedding
4	40'	40'	40'	4	19'	23'	40'
6	40'	40'	40'	6	19'	23'	40'
8	40'	40'	40'	8	19'	23'	40'
10	36'	40'	40'	10	19'	23'	40'
12	31'	40'	40'	12	19'	23'	40'
14	26'	40'	40'	14	19'	23'	40'
16	23'	37'	40'	16	19'	23'	40'
18	20'	34'	40'	18	19'	23'	40'
20	18'	32'	40'	20	19'	23'	40'
24	16'	29'	38'	24	19'	23'	40'
30	13'	23'	31'				
36	13'	22'	30'				
42	13'	21'	29'				
48	13'	19'	27'				
54	13'	19'	27'				

① Place remainder of bedding and backfill material as specified in the contract documents.

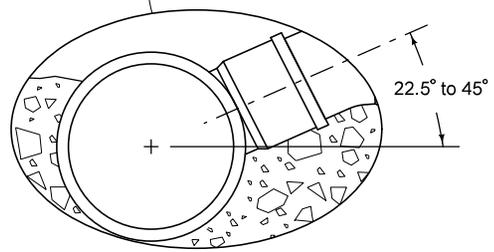
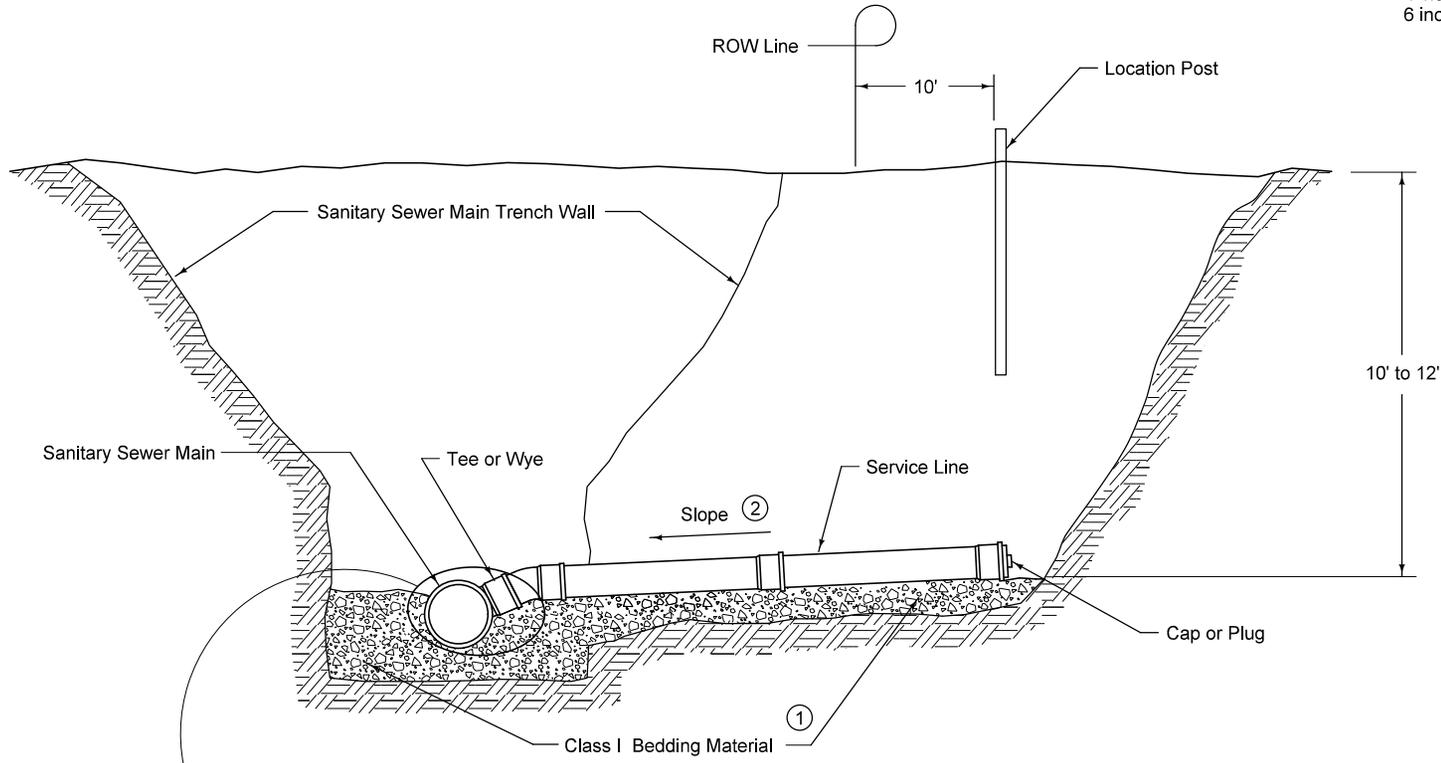
Key

- OD = Outside diameter of pipe
- TW = Trench width at top of pipe:
Min. = OD+18 inches OR 1.25xOD+12 inches
(whichever is greater)
- d = Depth of bedding material below pipe:
Min. = OD/8 OR 4 inches
(whichever is greater)

FIGURE 3010.104 SHEET 1 OF 1

SUDAS	IOWADOT	REVISION 3 04-20-21
		SW-104
FIGURE 3010.104	STANDARD ROAD PLAN	SHEET 1 of 1
REVISIONS: Added note DO NOT USE ON PRIMARY ROADWAYS.		
 <small>SUDAS DIRECTOR</small>		 <small>DESIGN METHODS ENGINEER</small>
PRESSURE PIPE TRENCH BEDDING		

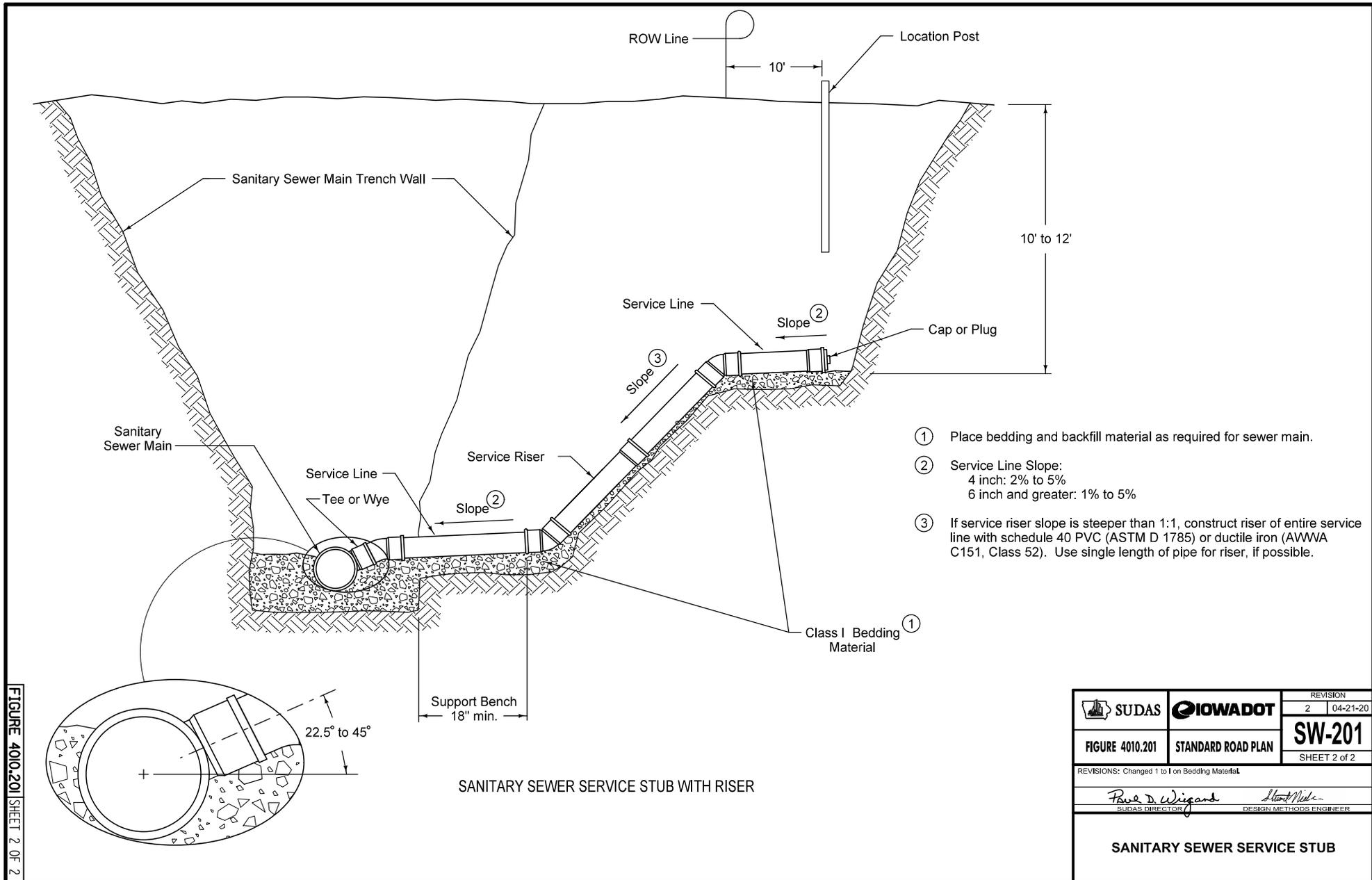
- ① Place bedding and backfill material as required for sewer main.
- ② Service Line Slope:
4 inch: 2% to 5%
6 inch and greater: 1% to 5%



SANITARY SEWER SERVICE STUB

FIGURE 4010.201 SHEET 1 OF 2

SUDAS	IOWADOT	REVISION	
		2	04-21-20
FIGURE 4010.201	STANDARD ROAD PLAN	SW-201	
		SHEET 1 of 2	
REVISIONS: Changed 1 to 1 on Bedding Material.			
 FRED D. WIGAND SUDAS DIRECTOR		 STUART MILLER DESIGN METHODS ENGINEER	
SANITARY SEWER SERVICE STUB			

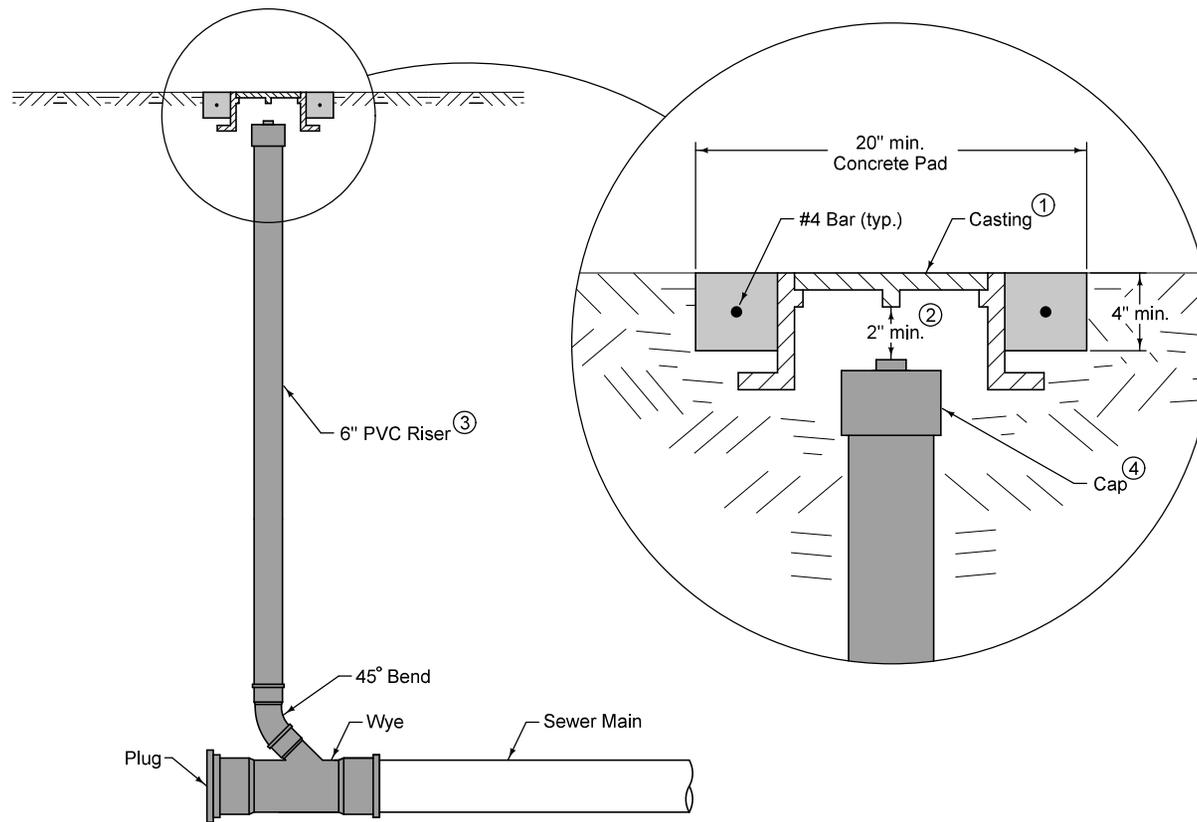


- ① Place bedding and backfill material as required for sewer main.
- ② Service Line Slope:
4 inch: 2% to 5%
6 inch and greater: 1% to 5%
- ③ If service riser slope is steeper than 1:1, construct riser of entire service line with schedule 40 PVC (ASTM D 1785) or ductile iron (AWWA C151, Class 52). Use single length of pipe for riser, if possible.

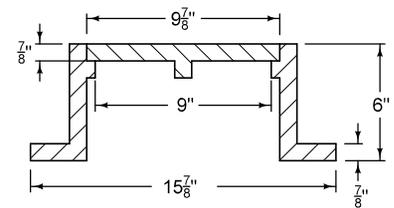
SANITARY SEWER SERVICE STUB WITH RISER

		REVISION
		2 04-21-20
FIGURE 4010.201	STANDARD ROAD PLAN	SW-201
REVISIONS: Changed 1 to 1 on Bedding Material		SHEET 2 of 2
 SUDAS DIRECTOR		 DESIGN METHODS ENGINEER
SANITARY SEWER SERVICE STUB		

FIGURE 4010.201 SHEET 2 OF 2



- ① Standard duty casting complying with AASHTO M 306. Mark lid with "Sanitary" or "Sanitary C.O."
- ② Do not allow casting to bear on top of riser pipe.
- ③ 6 inch PVC Service Pipe
- ④ Threaded PVC cap or iron body ferrule with brass screw plug

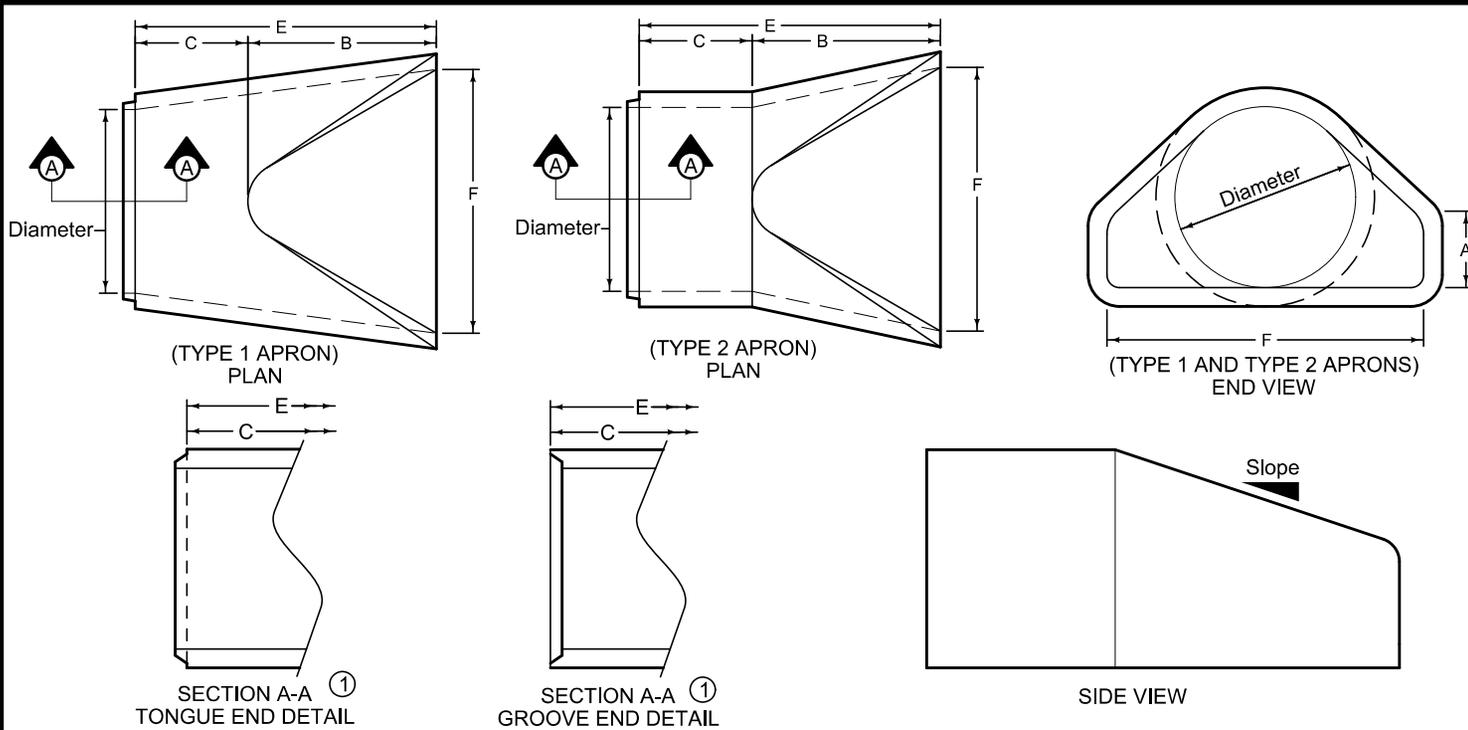


CASTING ①
(Dimensions are nominal)

CLEANOUT

FIGURE 4010.203 SHEET 1 OF 1

		REVISION
		1 04-17-18
FIGURE 4010.203	STANDARD ROAD PLAN	SW-203
		SHEET 1 of 1
<small>REVISIONS: Replaced Iowa DOT and SUDAS logos.</small>		
 SUDAS DIRECTOR		 DESIGN METHODS ENGINEER
SANITARY SEWER CLEANOUT		



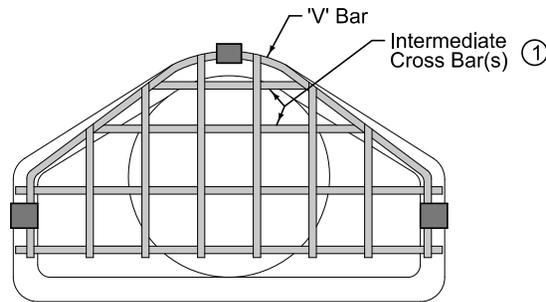
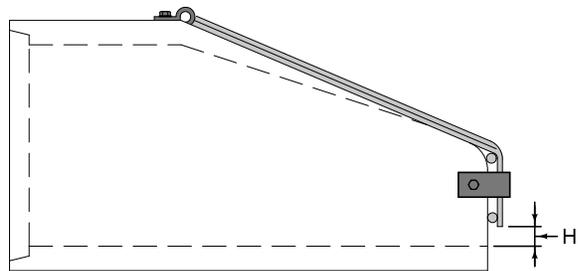
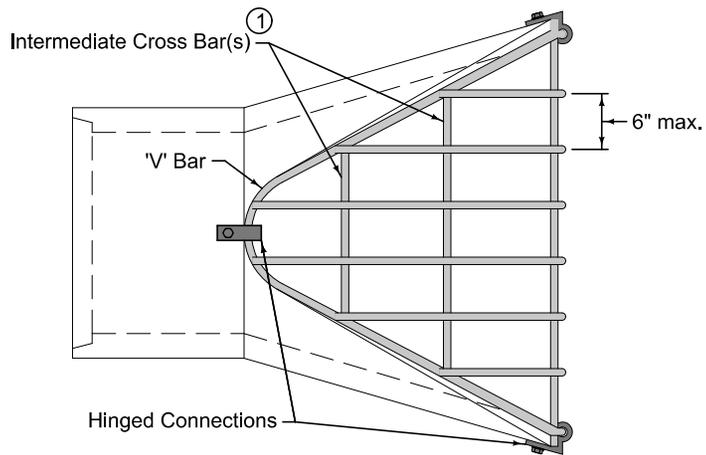
Dimension 'E' shown is the minimum and is considered the design length. Adjust for any difference between the actual length of concrete apron installed and the length indicated below for the length of concrete culvert pipe furnished.

- ① Tongue end used on inlet end section. Groove end used on outlet end section.

TYPE 1 APRONS						
DIAM.	SLOPE	A	B	MINIMUM		F
				C	E	
12"	2.4:1	4"	2'-0"	4'- $\frac{7}{8}$ "	6'- $\frac{7}{8}$ "	2'-0"
15"	2.4:1	6"	2'-3"	3'-10"	6'-1"	2'-6"
18"	2.3:1	9"	2'-3"	3'-10"	6'-1"	3'-0"
21"	2.4:1	9"	3'-0"	3'-1 $\frac{1}{2}$ "	6'-1 $\frac{1}{2}$ "	3'-5"
24"	2.5:1	9 $\frac{1}{2}$ "	3'-7 $\frac{1}{2}$ "	2'-6"	6'-1 $\frac{1}{2}$ "	4'-0"
27"	2.5:1	10 $\frac{1}{2}$ "	4'-1"	2'-0"	6'-1 $\frac{1}{2}$ "	4'-4"
30"	2.5:1	12"	4'-6"	1'-7 $\frac{3}{4}$ "	6'-1 $\frac{3}{4}$ "	5'-0"
36"	2.5:1	15"	5'-3"	2'-9"	8'-0"	6'-0"
42"	2.5:1	21"	5'-3"	2'-9"	8'-0"	6'-6"
48"	2.5:1	24"	6'-0"	2'-0"	8'-0"	7'-0"
54"	1.8:1	27"	5'-0"	3'-0"	8'-0"	7'-6"
60"	1.6:1	29 $\frac{1}{2}$ "	5'-0"	3'-0"	8'-0"	8'-0"
66"	1.7:1	30"	6'-0"	2'-3"	8'-3"	8'-0"
72"	1.6:1	30"	6'-6"	1'-9"	8'-3"	9'-0"
78"	1.8:1	36"	7'-6"	1'-9"	9'-3"	9'-6"
84"	1.3:1	29 $\frac{1}{2}$ "	6'-9"	2'-6 $\frac{1}{2}$ "	9'-3 $\frac{1}{2}$ "	10'-0"

TYPE 2 APRONS						
DIAM.	SLOPE	A	B	MINIMUM		F
				C	E	
12"	2.4:1	4"	2'-0"	4'- $\frac{7}{8}$ "	6'- $\frac{7}{8}$ "	2'-0"
15"	2.4:1	6"	2'-3"	3'-10"	6'-1"	2'-6"
18"	2.3:1	9"	2'-3"	3'-10"	6'-1"	3'-0"
21"	2.4:1	9"	3'-0"	3'-1 $\frac{1}{2}$ "	6'-1 $\frac{1}{2}$ "	3'-5"
24"	2.5:1	9 $\frac{1}{2}$ "	3'-7 $\frac{1}{2}$ "	2'-6"	6'-1 $\frac{1}{2}$ "	4'-0"
27"	2.5:1	10 $\frac{1}{2}$ "	4'-1"	2'-0"	6'-1 $\frac{1}{2}$ "	4'-4"
30"	2.5:1	12"	4'-6"	1'-7 $\frac{3}{4}$ "	6'-1 $\frac{3}{4}$ "	5'-0"
36"	2.5:1	15"	5'-3"	2'-9"	8'-0"	6'-0"
42"	2.5:1	21"	5'-3"	2'-9"	8'-0"	6'-6"
48"	2.5:1	24"	6'-0"	2'-0"	8'-0"	7'-0"
54"	1.9:1	24 $\frac{1}{2}$ "	5'-5"	2'-7"	8'-0"	7'-6"
60"	1.4:1	24 $\frac{1}{2}$ "	5'-0"	3'-0"	8'-0"	8'-0"
66"	1.7:1	30"	6'-0"	2'-3"	8'-3"	8'-0"
72"	1.4:1	24"	6'-6"	1'-9"	8'-3"	9'-0"
78"	1.8:1	36"	7'-6"	1'-9"	9'-3"	9'-6"
84"	1.5:1	23 $\frac{1}{2}$ "	7'-6 $\frac{1}{2}$ "	1'-9"	9'-3 $\frac{1}{2}$ "	10'-0"

	REVISION New 10-18-16 4030.222
	SUDAS Standard Specifications
	CIRCULAR CONCRETE APRONS



Provide guard dimensions to fit with type of apron provided. Ensure 'V' Bar completely rests on apron.

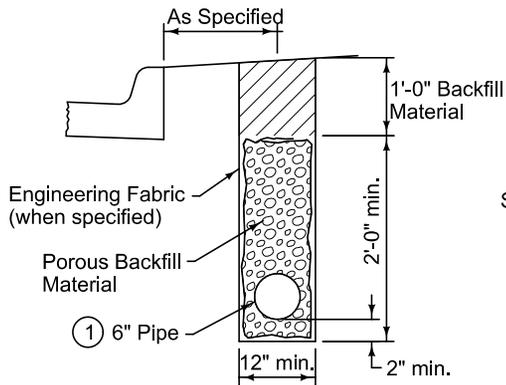
- ① All guards must include at least one intermediate cross bar. If pipe diameter, or equivalent diameter, is 60 inches or greater, use two intermediate cross bars equally spaced.

ROUND		ARCH		ELLIPTICAL	
PIPE SIZE	H	EQUIVALENT DIAMETER	H	EQUIVALENT DIAMETER	H
12"	2½"	18" to 24"	4"	18"	3"
15"	3"	30" to 36"	5"	24"	4"
18" - 24"	4"	42" to 54"	6"	30" to 36"	5"
27" - 36"	5"	60" to 72"	7"	42" to 54"	6"
42" - 54"	6"			60"	7"
60" - 72"	7"				
78" - 90"	8"				

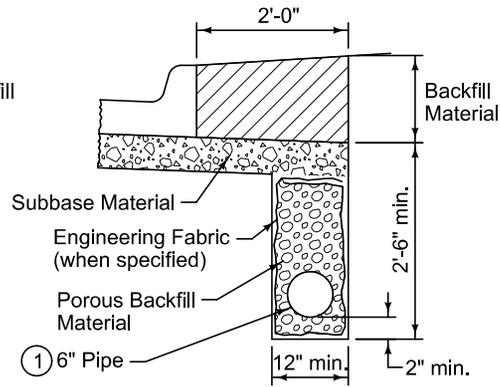
BAR SIZES				
	PIPE SIZE (DIA. or EQUIV.)	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12" - 24"	¾"	⅝"	¾"
	27" - 48"	7/8"	¾"	1"
ARCH	54" - 90"	1 1/8"	1"	1 1/4"
	up to 24" eq.	¾"	⅝"	¾"
	30" to 48"	7/8"	¾"	1"
ELLIPTICAL	54" to 72"	1 1/8"	1"	1 1/4"
	up to 24" eq.	¾"	⅝"	¾"
	30" to 48"	7/8"	¾"	1"
	54" to 60"	1 1/8"	1"	1 1/4"

BOLT LENGTH = PIPE WALL THICKNESS + 2½"

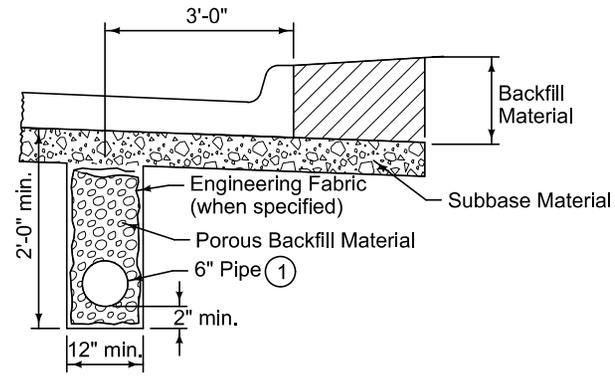
	REVISION
	New 10-18-16
SUDAS	4030.224
SHEET 1 of 1	
SUDAS Standard Specifications	
CONCRETE PIPE APRON GUARD	



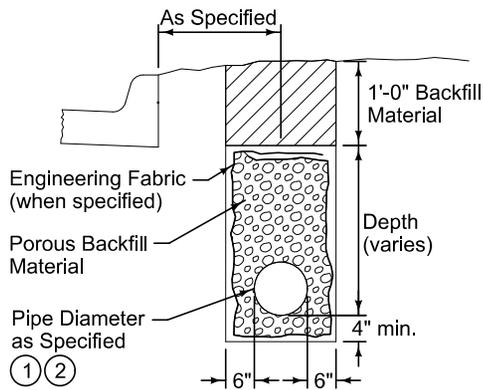
CASE A
TYPE 1



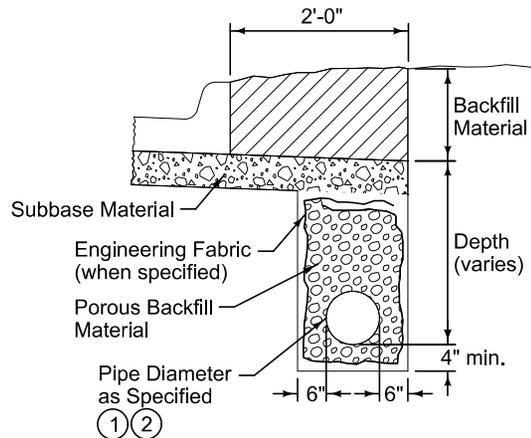
CASE B
TYPE 1



CASE C
TYPE 1



CASE D
TYPE 2

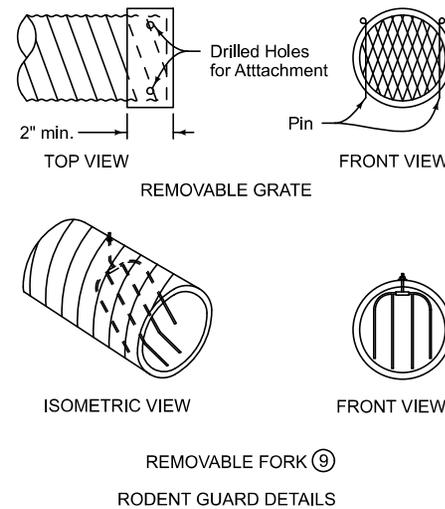
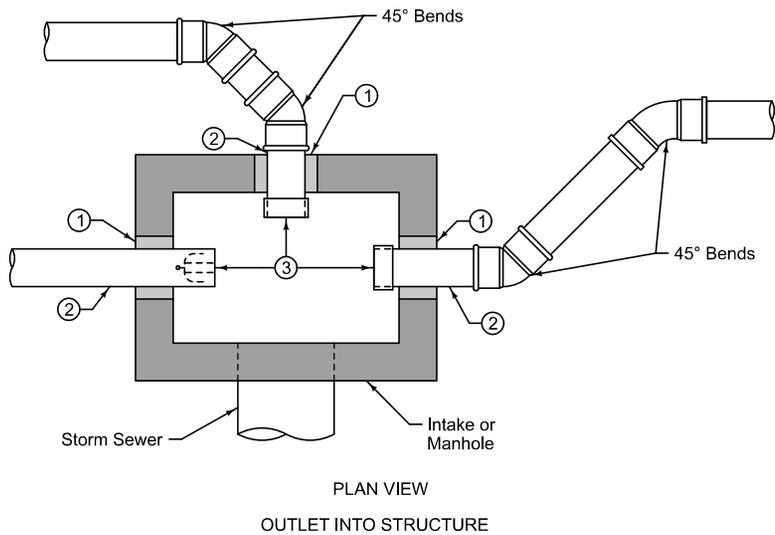


CASE E
TYPE 2

Type 1 installation is for longitudinal subdrain only. Type 2 installation is for combination subdrain/footing drain collectors.

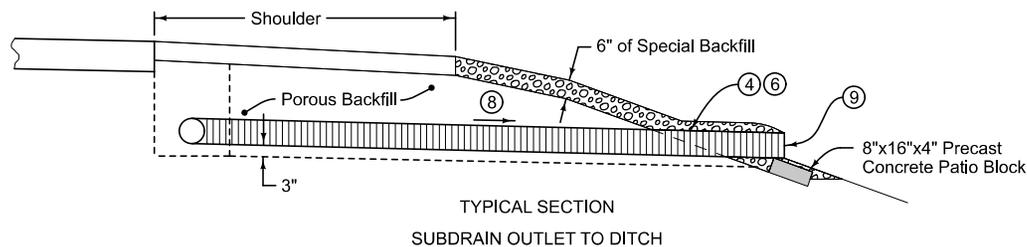
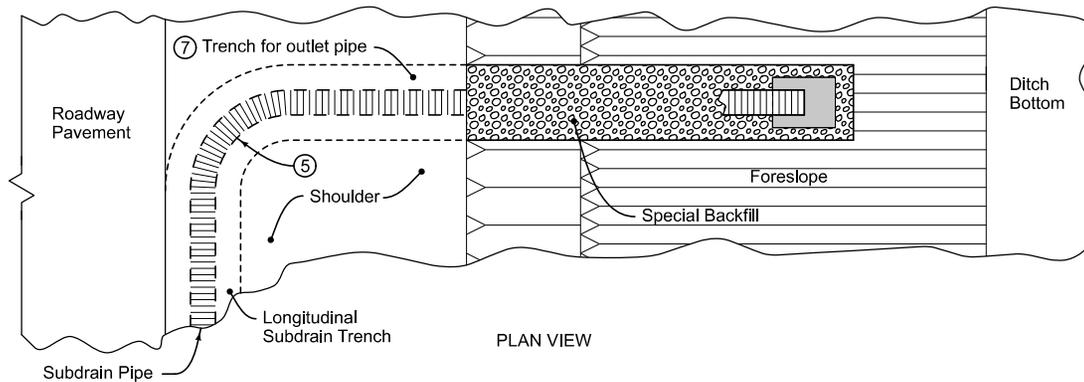
- ① Place perforations down for all installations.
- ② When concrete pipe is specified, wrap pipe joints with engineering fabric. Do not apply joint sealant. Comply with Figure 4020.211

	SUDAS 4040.231	REVISION 1 10-21-14
	SHEET 1 of 1	
SUDAS Standard Specifications		
SUBDRAINS		



Transverse and backslope subdrains require only single outlets. Install double outlet pipes on all longitudinal subdrain systems, except at the beginning and end of the system. At these locations, install a single outlet pipe.

- ① Fill annular space with non-shrink grout.
- ② Outlets through intake walls to be CMP; corrugated, double-walled HDPE; or PVC.
- ③ Extend outlet pipe into structure as required to install removable rodent guard.
- ④ Construct subdrain outlet to ditch with the same type and size of pipe as used for the subdrain.
- ⑤ Provide a minimum 1 foot radius for all bends or use two 45° fittings
- ⑥ If a CMP outlet is specified in the contract documents, construct the final 10 to 12 feet of the subdrain outlet to ditch with CMP 2 inches larger than the subdrain pipe. Connect pipes with a manufactured coupler or concrete collar.
- ⑦ Provide a minimum trench width of 12 inches for a single outlet and 24 inches for a double outlet.
- ⑧ Provide a 6 inch minimum drop in elevation between longitudinal subdrain and outlet.
- ⑨ For subdrain outlet to ditch, only use fork type rodent guard.

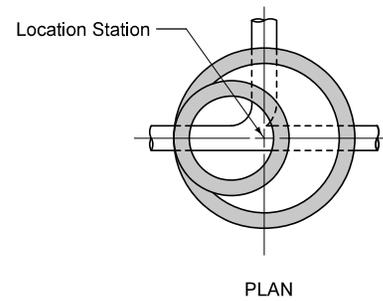
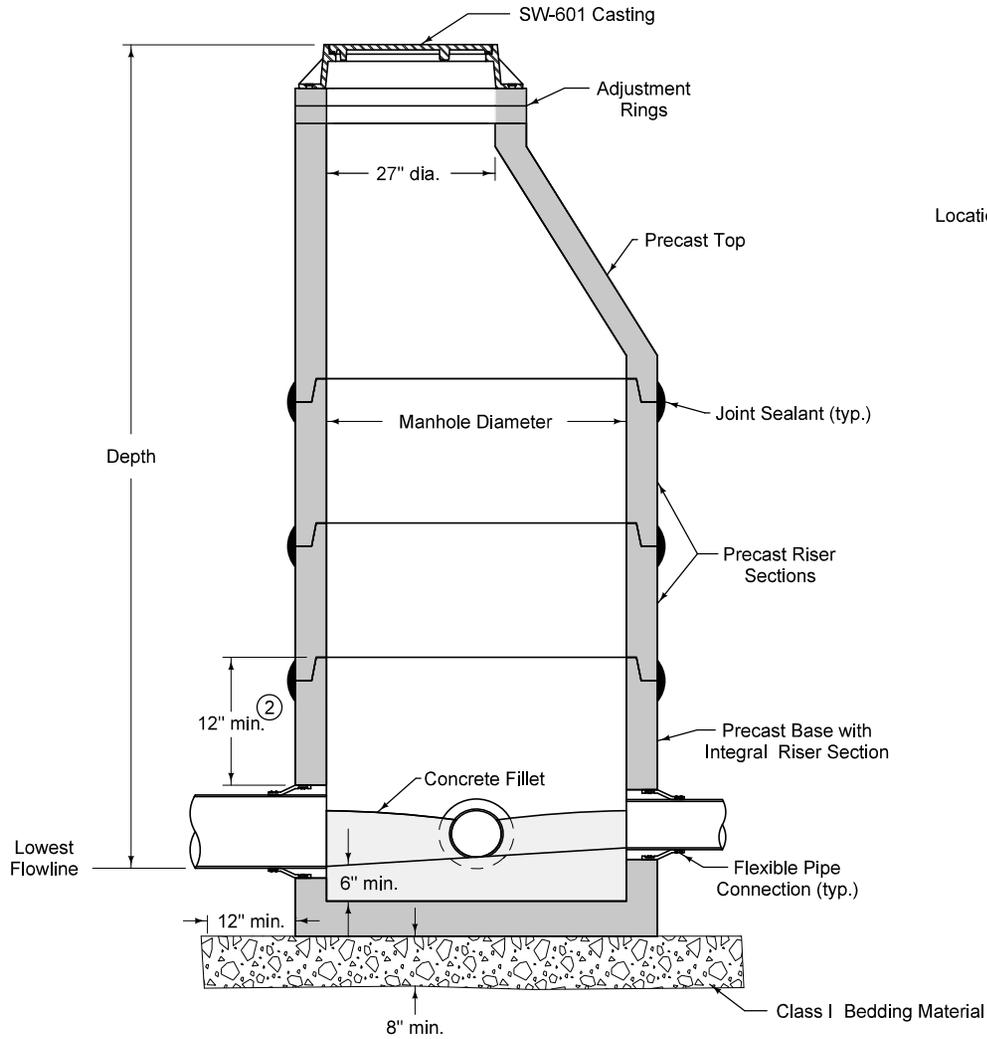


	REVISION 5 2025 Edition 4040.233
	SHEET 1 of 1
	SUDAS Standard Specifications
SUBDRAIN OUTLETS	

If manhole depth exceeds 20 feet, install steps.

Install infiltration barrier.

- ① For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- ② 12 inch minimum riser height above all pipe openings.

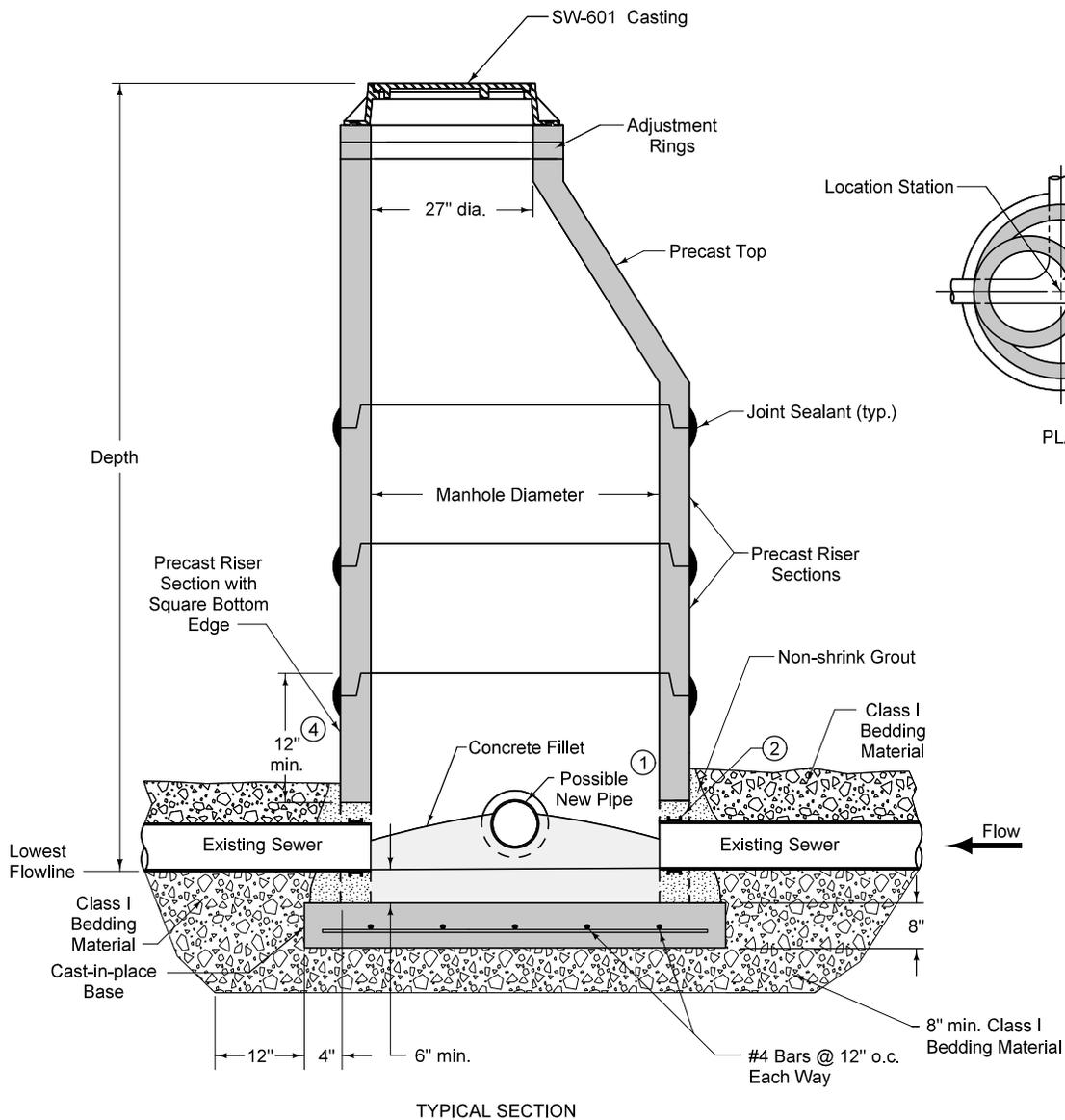


Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes ①	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

TYPICAL SECTION

		REVISION 4 04-20-21
		SHEET 1 of 1
FIGURE 6010.301	STANDARD ROAD PLAN	SW-301
REVISIONS: Added manhole depth note and infiltration barrier note.		
SUDAS DIRECTOR		DESIGN METHODS ENGINEER
CIRCULAR SANITARY SEWER MANHOLE		

FIGURE 6010.301 SHEET 1 OF 1



If manhole depth exceeds 20 feet, install steps.

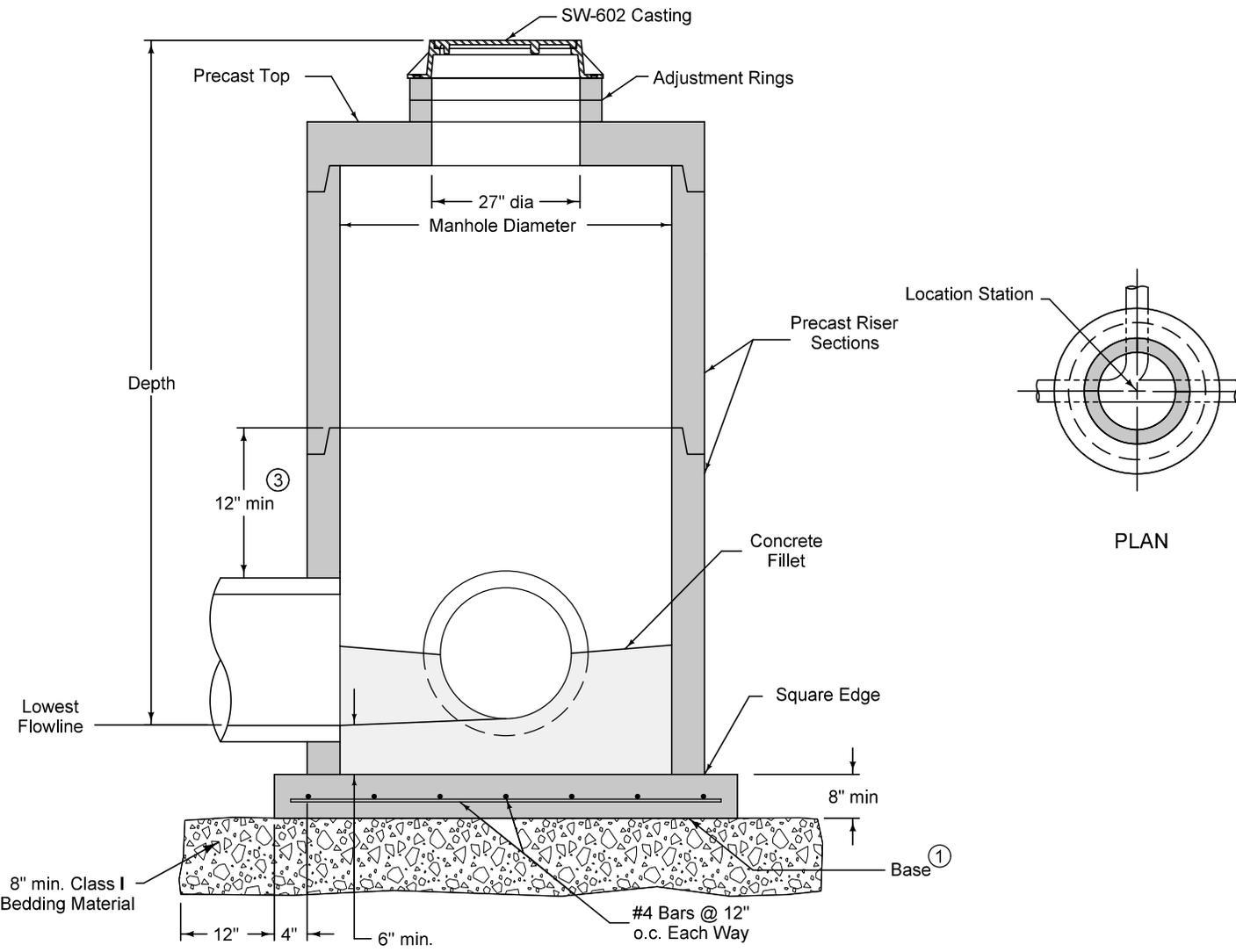
Install infiltration barrier.

- ① For new pipe connections, provide cored opening with flexible pipe connector.
- ② For existing pipe connections, provide an arched opening with a diameter up to 6 inches larger than outside diameter of pipe. Install waterstop around existing pipe. Fill void between pipe and opening with non-shrink grout.
- ③ For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- ④ 12 inch minimum riser height above all pipe openings.

Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

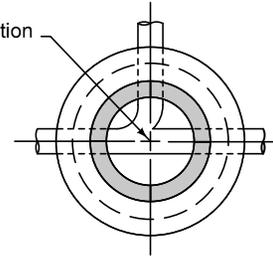
FIGURE 6010.303 SHEET 1 OF 1

SUDAS IOWADOT	REVISION	4	04-20-21
	FIGURE 6010.303	STANDARD ROAD PLAN	SW-303
REVISIONS: Added manhole depth note		SHEET 1 of 1	
Paul D. Wigand SUDAS DIRECTOR		Steve Miller DESIGN METHODS ENGINEER	
SANITARY SEWER MANHOLE OVER EXISTING SEWER			



If manhole depth exceeds 20 feet, install steps.

- ① Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.
- ② For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- ③ 12 inch minimum riser height above all pipe openings.



PLAN

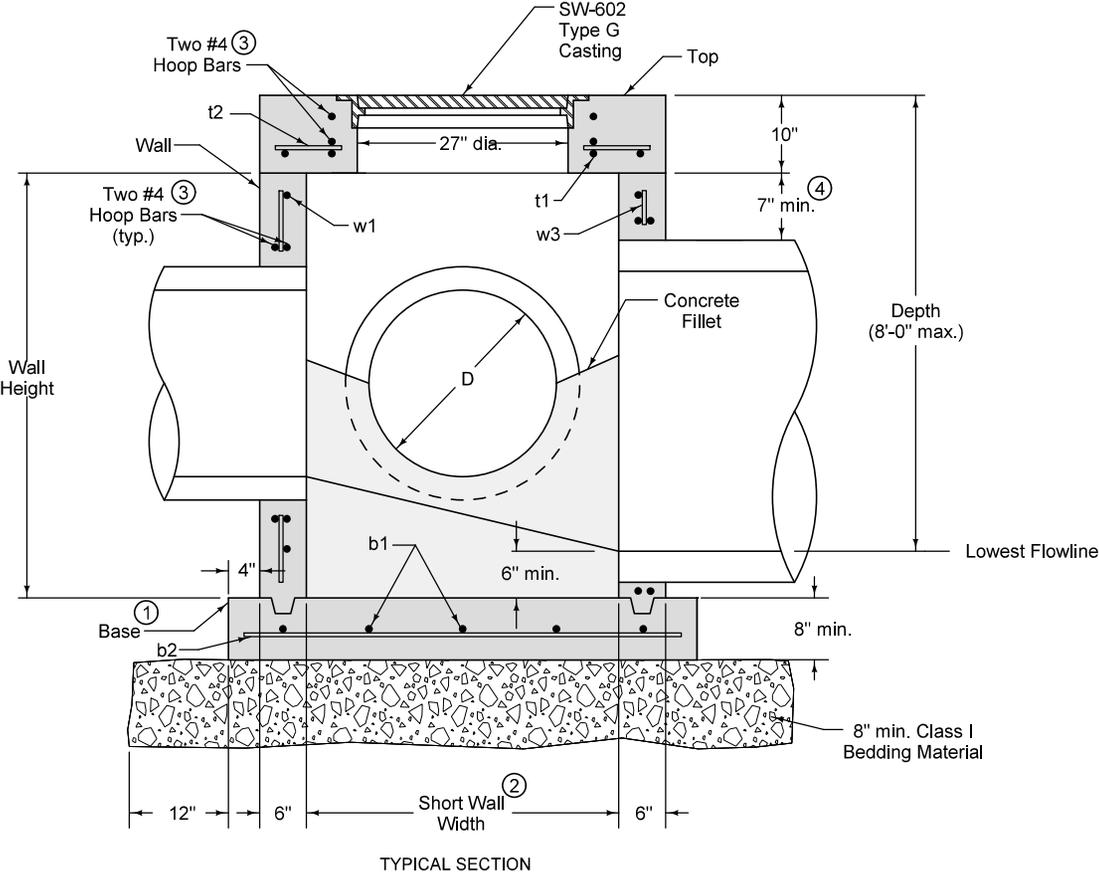
Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes ②	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

TYPICAL SECTION

FIGURE 6010.401 SHEET 1 OF 1

SUDAS IOWADOT	REVISION 3 04-20-21
	FIGURE 6010.401 STANDARD ROAD PLAN SW-401 SHEET 1 of 1
REVISIONS: Added manhole depth note.	
Paul D. Wigand SUDAS DIRECTOR	
Mark Nide DESIGN METHODS ENGINEER	
CIRCULAR STORM SEWER MANHOLE	

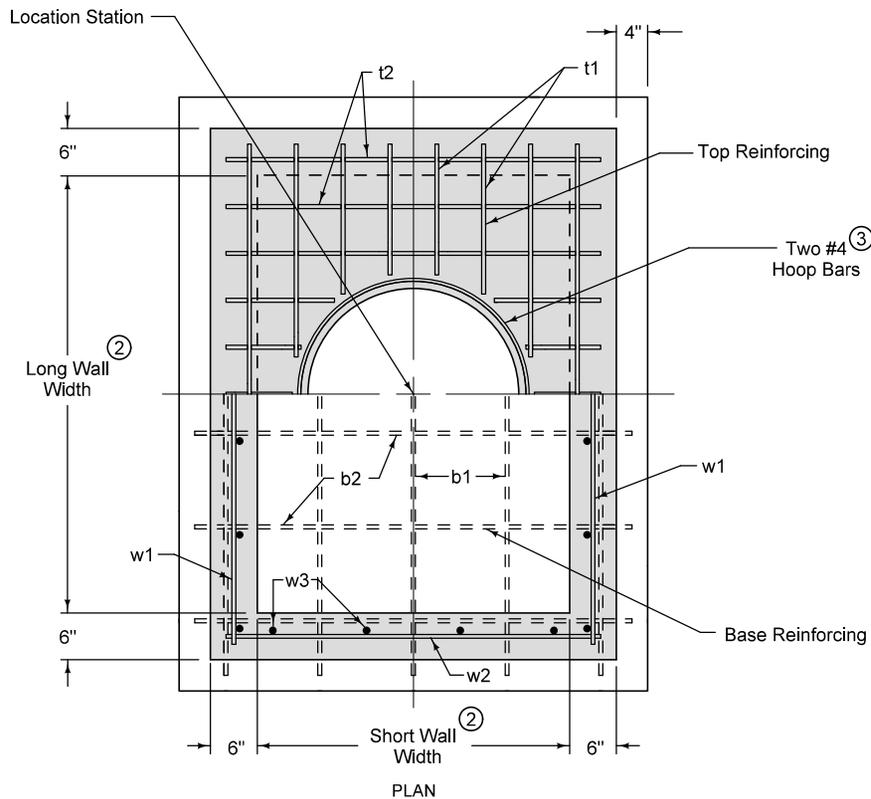
Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.



- ① Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ② Wall widths vary with pipe diameter and range from 40 inches minimum to 77 inches maximum. Provide 6 inches of wall width (minimum) each side of pipe opening.
- ③ Provide two #4 hoop bars at top opening and at all pipe openings.
- ④ 7 inch minimum wall height above all pipes.

FIGURE 6010.406 SHEET 1 OF 2

SUDAS	IOWADOT	REVISION	
		2	04-21-20
FIGURE 6010.406	STANDARD ROAD PLAN	SW-406	
REVISIONS: Added Class I Bedding Material.		SHEET 1 of 2	
Paul D. Wigand SUDAS DIRECTOR		Stuart Miller DESIGN METHODS ENGINEER	
SHALLOW RECTANGULAR STORM SEWER MANHOLE			



- ② Wall widths vary with pipe diameter and range from 40 inches minimum to 77 inches maximum. Provide 6 inches of wall width (minimum) each side of pipe opening.
- ③ Provide two #4 hoop bars at top opening and at all pipe openings.

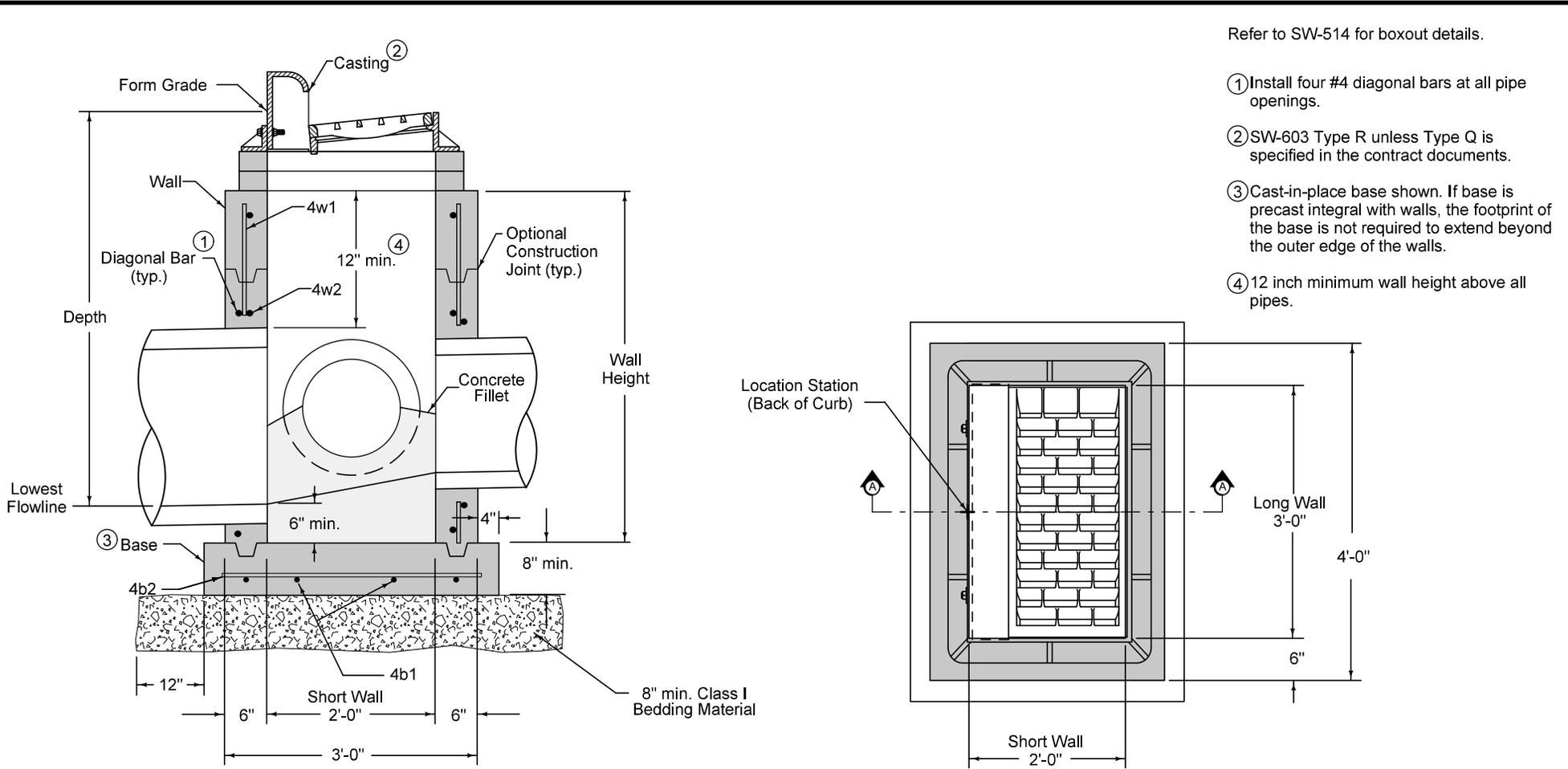
REINFORCING BAR LIST					
Mark	Size	Location	Shape	Length	Spacing
t1	See Table	Top	—	Long Wall plus 8"	6"
t2	See Table	Top	—	Short Wall plus 8"	6"
b1	See Table	Base	—	Long Wall plus 14"	12"
b2	See Table	Base	—	Short Wall plus 14"	12"
w1	See Table	Walls	—	Long Wall plus 8"	12" ^f
w2	See Table	Walls	—	Short Wall plus 8"	12"
w3	See Table	Walls	—	Wall Height minus 4"	12"

^fPlace a minimum of one w1 bar above each pipe opening

Diameter of Largest Pipe, D	Minimum Bar Size
48" or 54"	6
33" to 42"	5
30" or smaller	4

FIGURE 6010.406 SHEET 2 OF 2

SUDAS IOWADOT	REVISION 2 04-21-20
	FIGURE 6010.406 STANDARD ROAD PLAN SW-406 SHEET 2 of 2
REVISIONS: Added Class 1 Bedding Material.	
Paul D. Wigand SUDAS DIRECTOR	
Stuart M. Nelson DESIGN METHODS ENGINEER	
SHALLOW RECTANGULAR STORM SEWER MANHOLE	



Refer to SW-514 for boxout details.

- ① Install four #4 diagonal bars at all pipe openings.
- ② SW-603 Type R unless Type Q is specified in the contract documents.
- ③ Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ④ 12 inch minimum wall height above all pipes.

SECTION A-A

PLAN

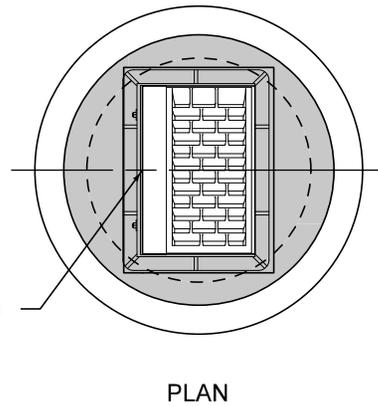
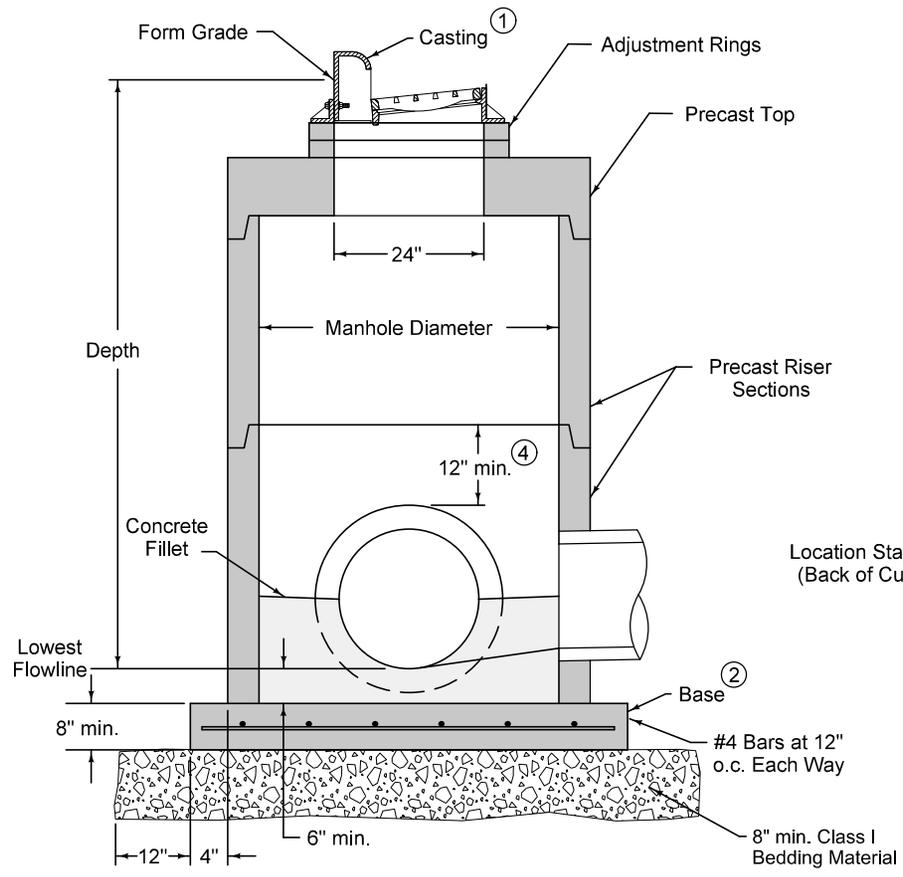
REINFORCING BAR LIST

Mark	Size	Location	Shape	Length	Count	Spacing
4w1	4	Walls	—	Wall Height minus 4"	14	12"
4w2	4	Long Walls	—	3'-8"	Varies	12"
4w3	4	Short Walls	—	2'-8"	Varies	12"
4b1	4	Base	—	4'-2"	4	10"
4b2	4	Base	—	3'-2"	5	10"

Pipe Location	MAXIMUM PIPE DIAMETERS	
	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

FIGURE 6010.501 SHEET 1 OF 1

SUDAS	IOWADOT	REVISION
		3 04-21-20
FIGURE 6010.501	STANDARD ROAD PLAN	SW-501
REVISIONS: Added Class I Bedding Material.		SHEET 1 of 1
Paul D. Wigand SUDAS DIRECTOR		Stuart Miller DESIGN METHODS ENGINEER
SINGLE GRATE INTAKE		



TYPICAL SECTION

Refer to SW-514 for boxout details.

- ① SW-603 Type R unless Type Q is specified in the contract documents.
- ② Cast-in-place base shown. Base may be square. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ③ For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- ④ 12 inch minimum riser height above all pipes.

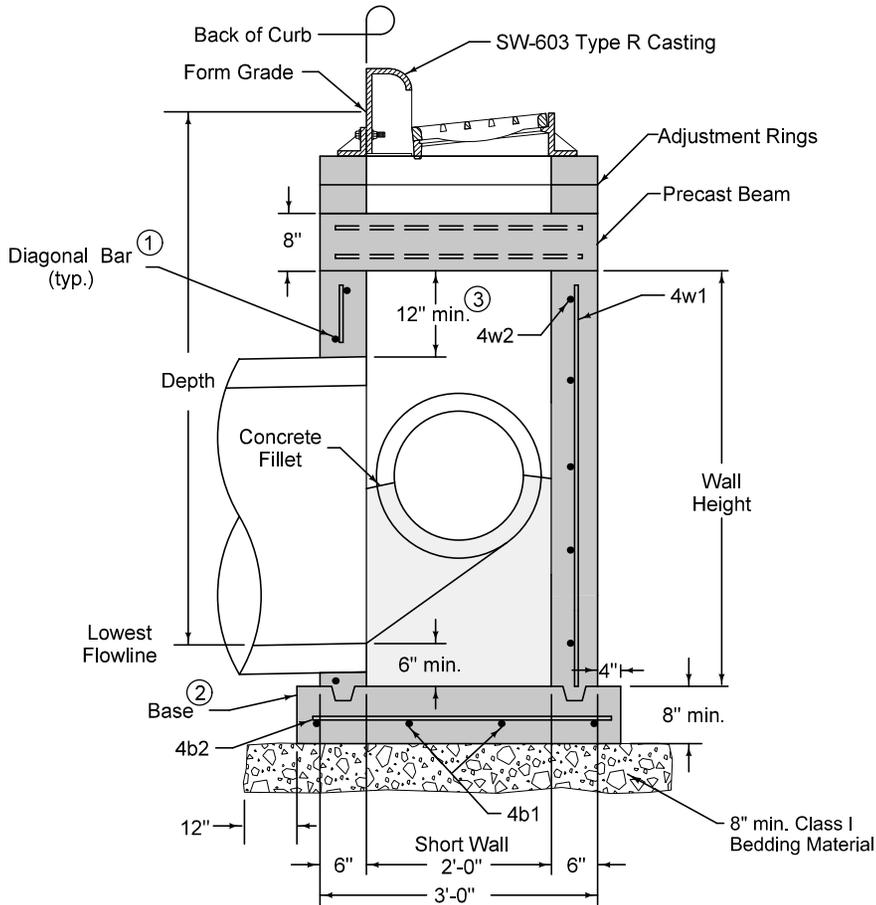
Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes ③	
	at 180° Separation	at 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

FIGURE 6010.502 SHEET 10F

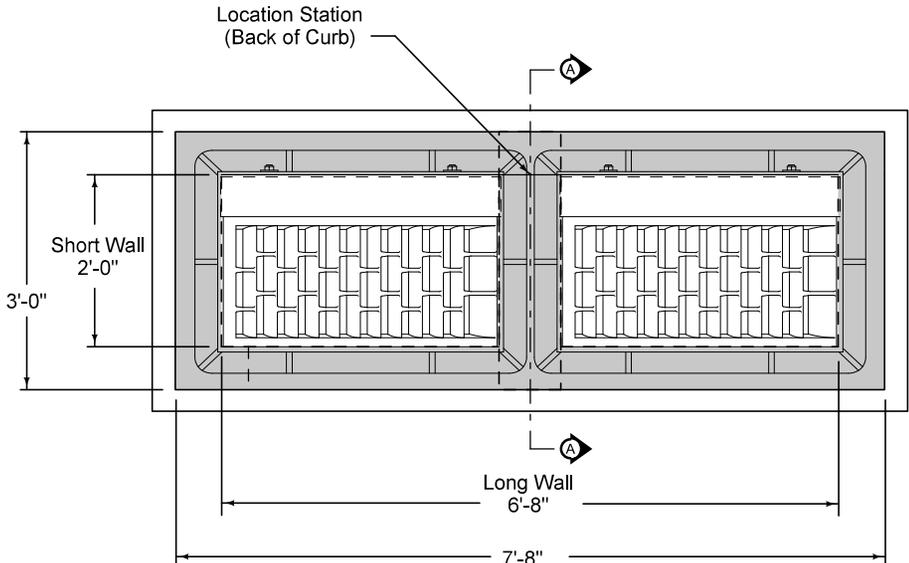
SUDAS	IOWADOT	REVISION
		1 04-21-20
FIGURE 6010.502	STANDARD ROAD PLAN	SW-502
		SHEET 1 of 1
REVISIONS: Added Class I Bedding Material.		
<i>Paul D. Wigand</i> SUDAS DIRECTOR		<i>Steve Nade</i> DESIGN METHODS ENGINEER
CIRCULAR SINGLE GRATE INTAKE		

Refer to SW-514 for boxout details.

- ① Install four #4 diagonal bars at all pipe openings.
- ② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ③ 12 inch minimum wall height above all pipes.



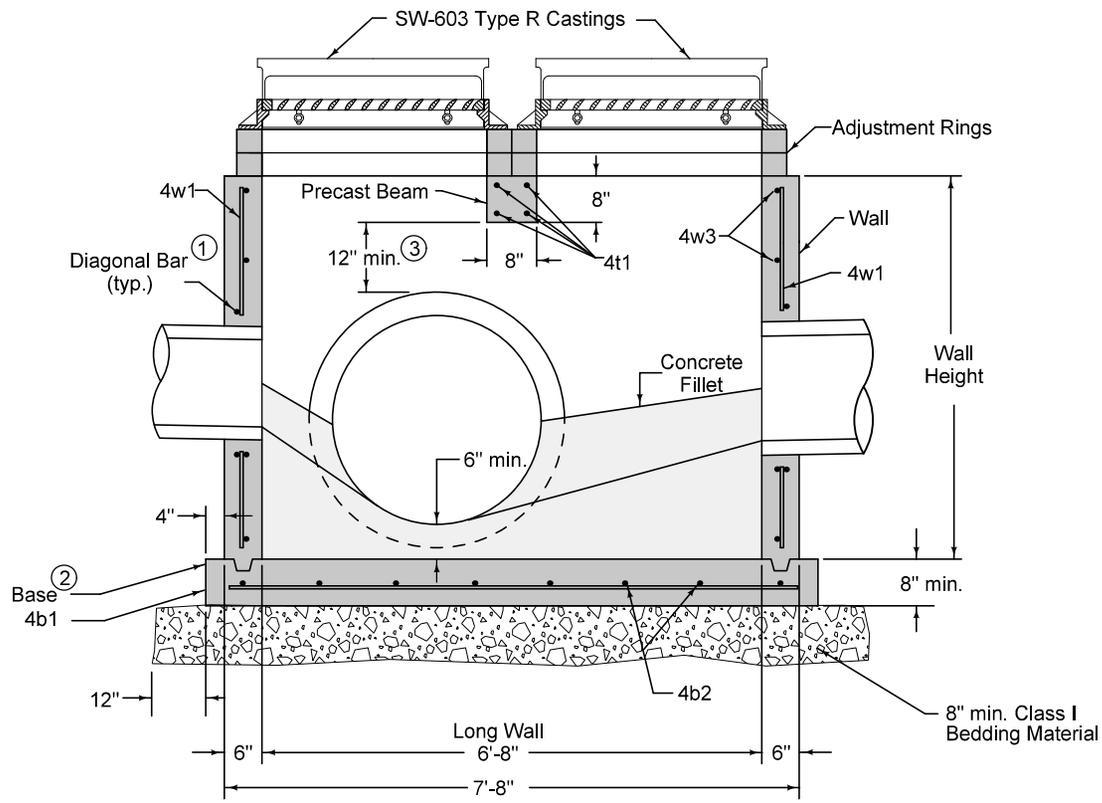
SECTION A-A



PLAN

FIGURE 6010.505 SHEET 1 OF 2

SUDAS	IOWADOT	REVISION
		3 04-21-20
FIGURE 6010.505	STANDARD ROAD PLAN	SW-505
REVISIONS: Added Class I Bedding Material.		SHEET 1 of 2
Paul D. Wiegand SUDAS DIRECTOR		Shawn Miller DESIGN METHODS ENGINEER
DOUBLE GRATE INTAKE		



TYPICAL SECTION

- ① Install four #4 diagonal bars at all pipe openings.
- ② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ③ 12 inch minimum wall height above all pipes.

REINFORCING BAR LIST

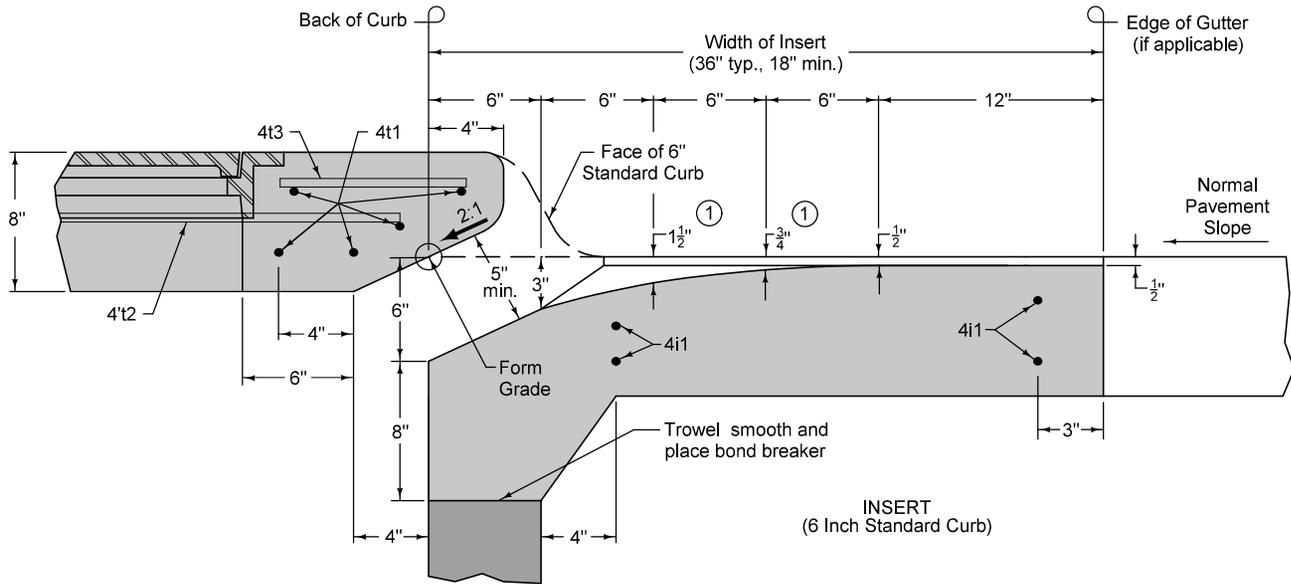
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Beam	—	4	2'-8"	4"
4b1	4	Base	—	4	7'-10"	10"
4b2	4	Base	—	8	3'-2"	12"
4w1	4	Walls	—	20	Wall Height minus 4"	12"
4w2	4	Long Walls	—	Varies	7'-4"	12"
4w3	4	Short Walls	—	Varies	2'-8"	12"

MAXIMUM PIPE DIAMETERS

Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	60"	66"

FIGURE 6010.505 SHEET 2 OF 2

SUDAS IOWADOT	REVISION 3 04-21-20
	FIGURE 6010.505 STANDARD ROAD PLAN SW-505 SHEET 2 of 2
REVISIONS: Added Class I Bedding Material.	
Paul D. Wigand SUDAS DIRECTOR	
Steve Miller DESIGN METHODS ENGINEER	
DOUBLE GRATE INTAKE	



① Insert shaping may be modified for insert widths less than 36 inches. For an 18 inch insert, reduce dimensions indicated by 1/2 inch.

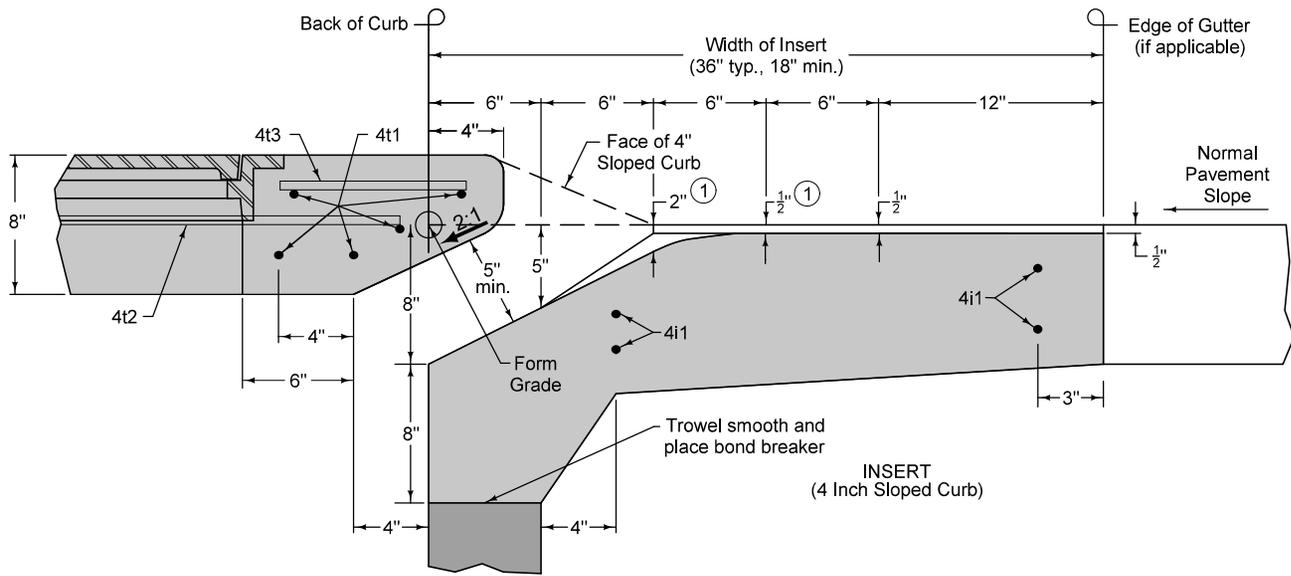
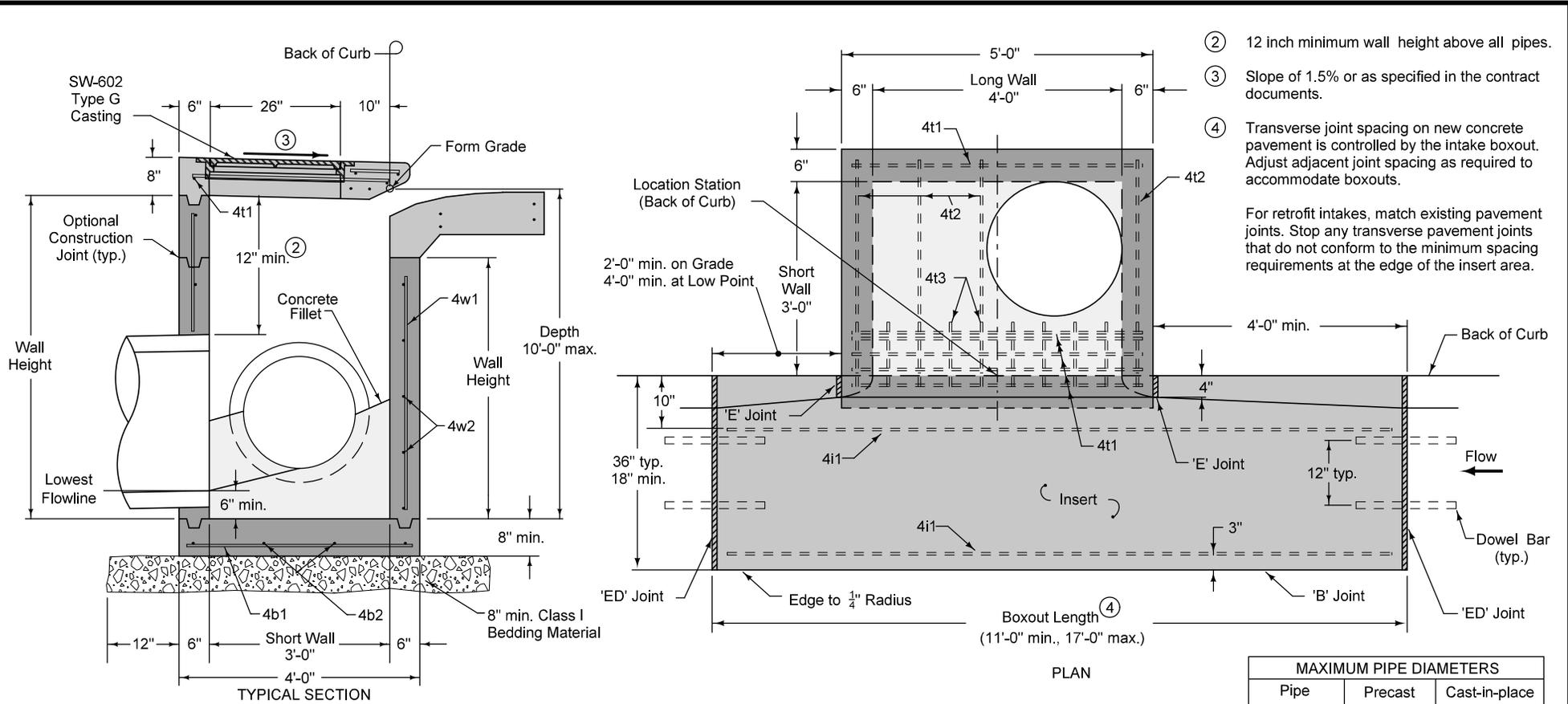


FIGURE 6010.507 SHEET 1 OF 2

SUDAS	IOWADOT	REVISION
		4 04-21-20
FIGURE 6010.507	STANDARD ROAD PLAN	SW-507
		SHEET 1 of 2
REVISIONS: Added Class I Bedding Material and changed maximum box out length to 17'.		
<i>Paul D. Wiegand</i> SUDAS DIRECTOR		<i>Shawn Miller</i> DESIGN METHODS ENGINEER
SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX		



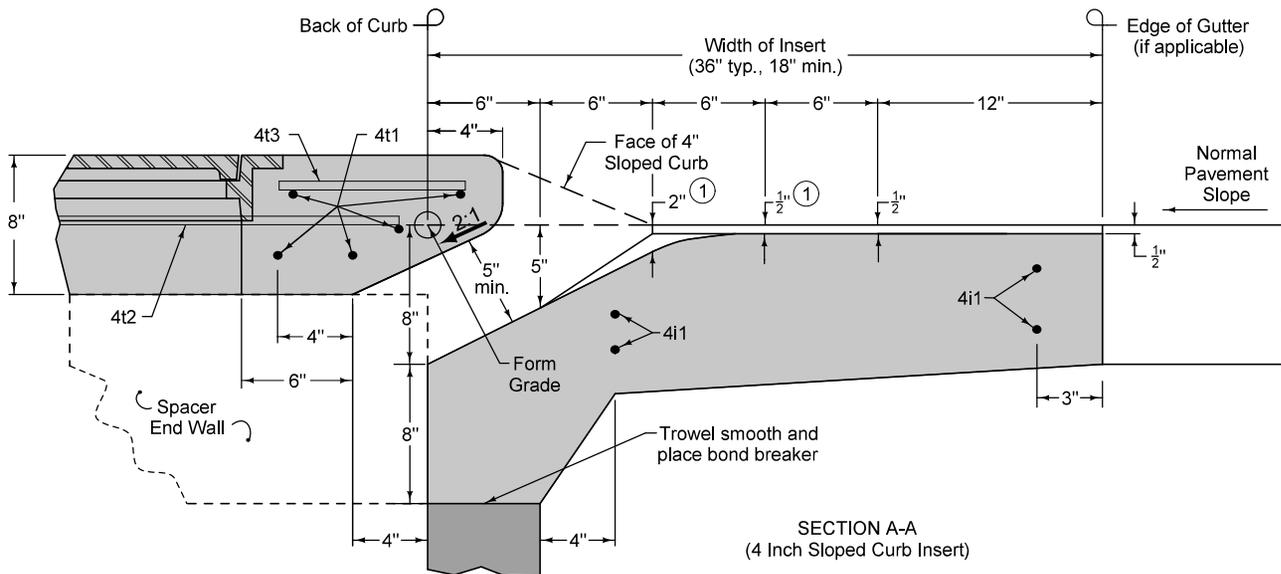
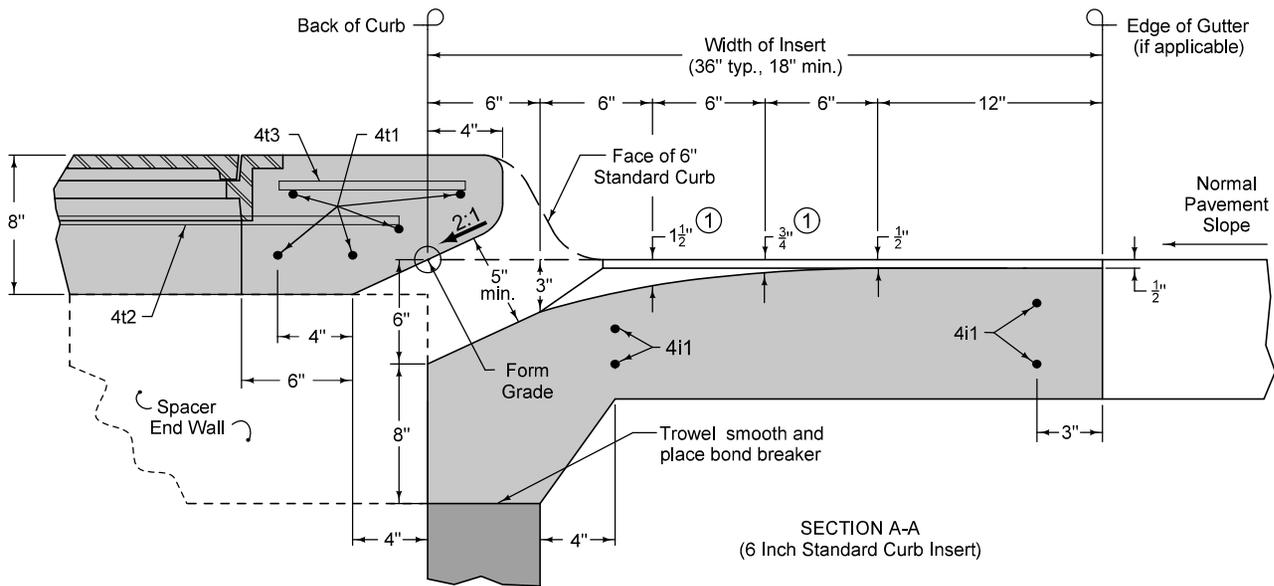
- ② 12 inch minimum wall height above all pipes.
 - ③ Slope of 1.5% or as specified in the contract documents.
 - ④ Transverse joint spacing on new concrete pavement is controlled by the intake boxout. Adjust adjacent joint spacing as required to accommodate boxouts.
- For retrofit intakes, match existing pavement joints. Stop any transverse pavement joints that do not conform to the minimum spacing requirements at the edge of the insert area.

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	30"	36"

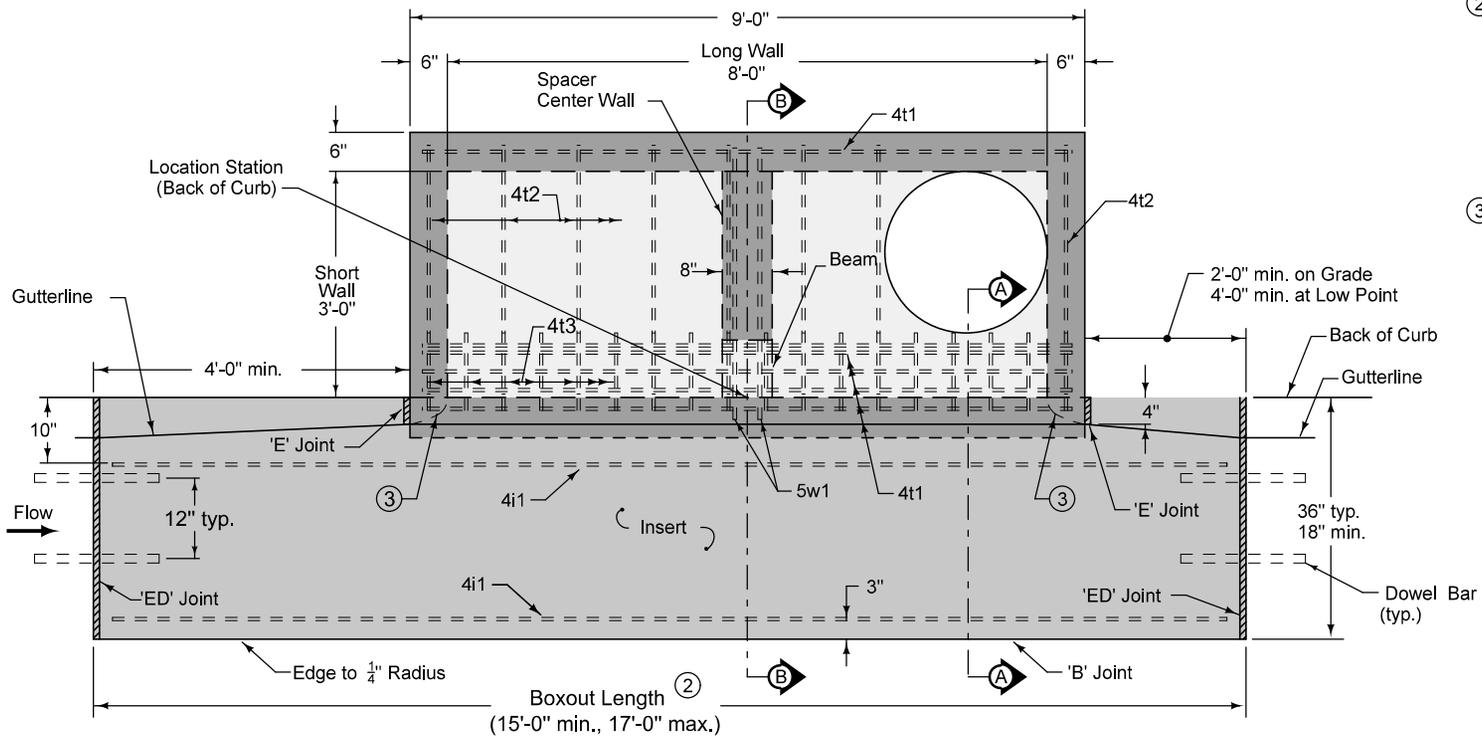
REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	—	6	4'-8"	See Insert
4t2	4	Top	—	4	3'-6"	12"
4t3	4	Top	—	10	10"	6"
4b1	4	Base	—	6	3'-6"	1 1"
4b2	4	Base	—	5	4'-6"	10"
4i1	4	Insert	—	4	Boxout Length minus 8"	See Plan
4w1	4	Walls	—	14	Wall Height minus 4"	14"
4w2	4	Long Walls	—	Varies	4'-8"	12"
4w3	4	Short Walls	—	Varies	3'-8"	12"

SUDAS IOWADOT	FIGURE 6010.507 STANDARD ROAD PLAN	REVISION 4 04-21-20
		SW-507 SHEET 2 of 2
REVISIONS: Added Class I Bedding Material and changed maximum box out length to 17'.		
<i>Paul D. Wigand</i> SUDAS DIRECTOR		<i>Stuart Nade</i> DESIGN METHODS ENGINEER
SINGLE OPEN-THROAT CURB INTAKE, SMALL BOX		

FIGURE 6010.507 SHEET 2 OF 2



SUDAS	IOWADOT	REVISION
		6 04-21-20
FIGURE 6010.509	STANDARD ROAD PLAN	SW-509
		SHEET 1 of 3
REVISIONS: Added Class 1 Bedding Material and changed maximum box out length to 17'.		
<i>Paul D. Wigand</i> SUDAS DIRECTOR		<i>Steve Nade</i> DESIGN METHODS ENGINEER
DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX		



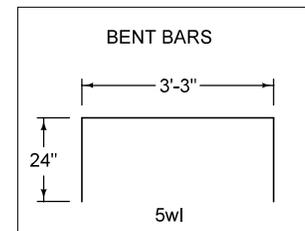
PLAN

② Transverse joint spacing on new concrete pavement is controlled by the intake boxout. Adjust adjacent joint spacing as required to accommodate boxouts.

For retrofit intakes, match existing pavement joints. Stop any transverse pavement joints that do not conform to the minimum spacing requirements at the edge of the insert area.

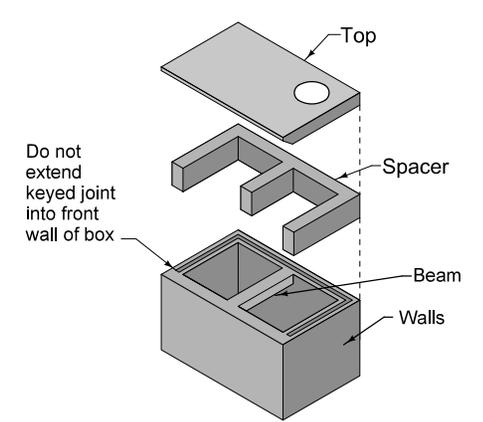
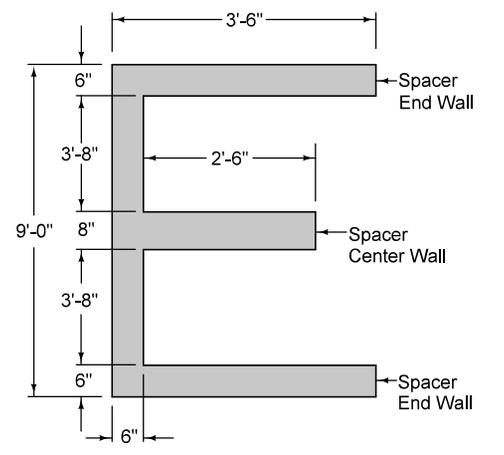
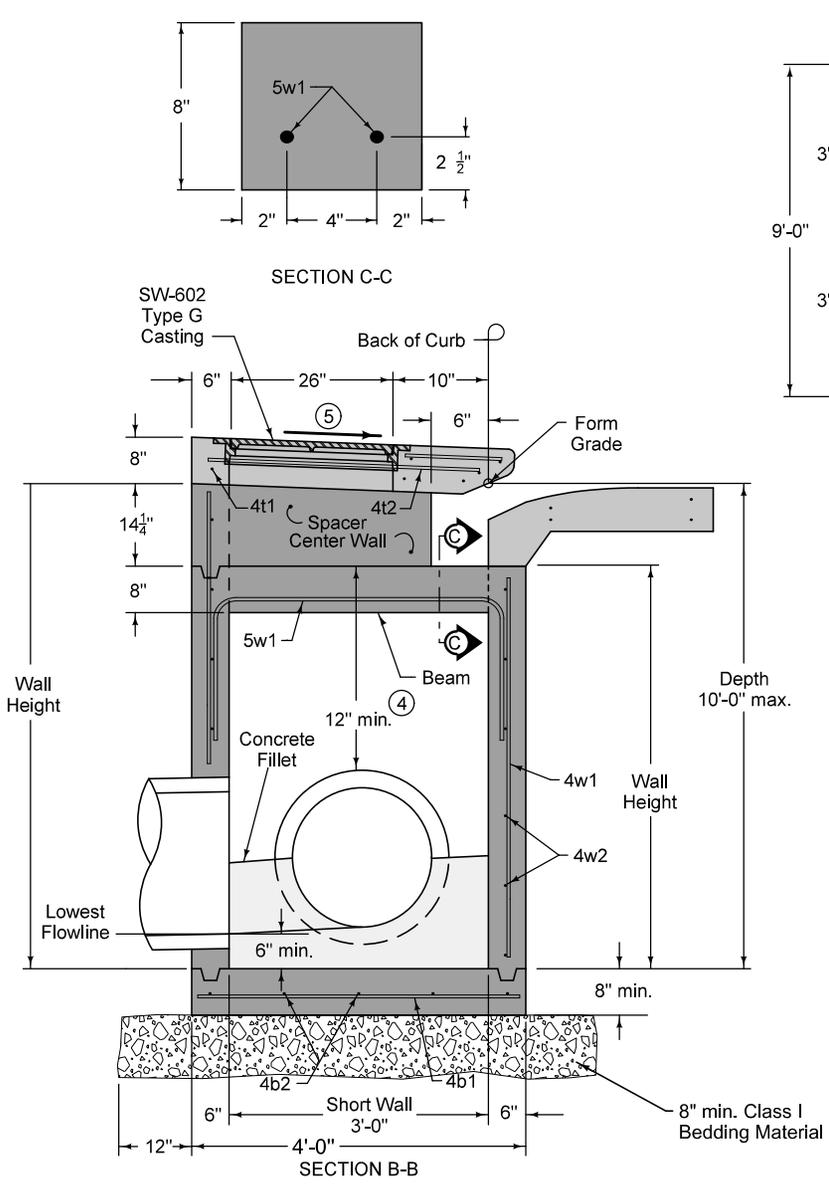
③ Rounded shaping at inlet.

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4b1	4	Base	—	9	3'-6"	12"
4b2	4	Base	—	5	8'-6"	10"
4i1	4	Insert	—	4	Boxout Length minus 8"	See Insert
4t1	4	Top	—	6	8'-6"	See Plan
4t2	4	Top	—	8	3'-6"	12"
4t3	4	Top	—	18	10"	6"
4w1	4	Walls	—	22	Wall Height minus 4"	13"
4w2	4	Long Walls	—	Varies	4'-8"	12"
4w3	4	Short Walls	—	Varies	3'-8"	12"
5w1	5	Beam	⌊	2	7'-3"	4"



SUDAS	IOWADOT	REVISION	
		6	04-21-20
FIGURE 6010.509	STANDARD ROAD PLAN	SW-509	
		SHEET 2 of 3	
REVISIONS: Added Class I Bedding Material and changed maximum box out length to 17'.			
Paul D. Wiegand SUDAS DIRECTOR		Stuart Miller DESIGN METHODS ENGINEER	
DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX			

FIGURE 6010.509 SHEET 2 OF 3



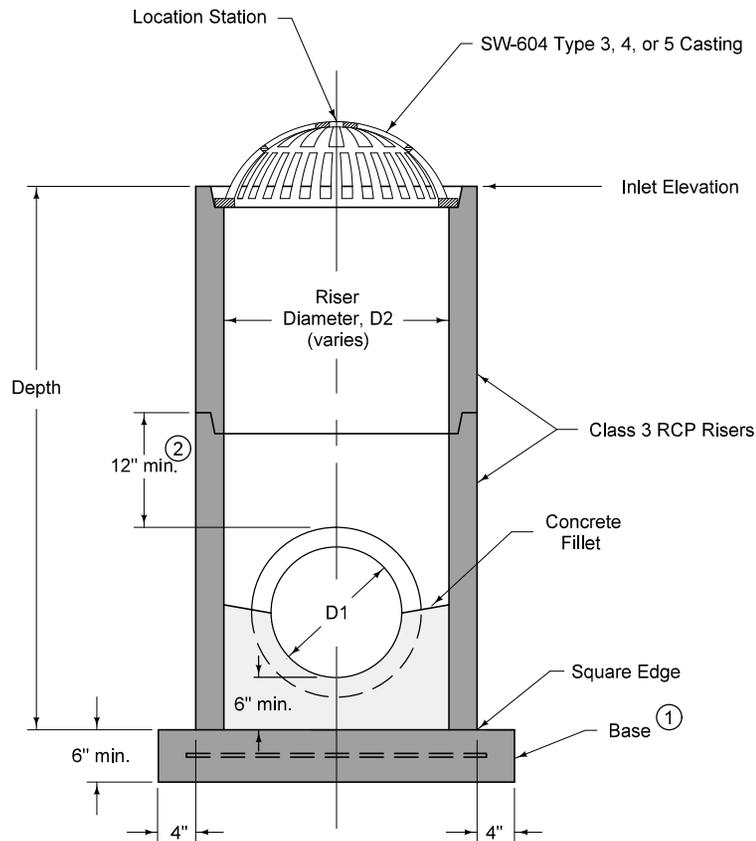
ISOMETRIC
(Refer to SECTION B-B for alignment of Top with Spacer)

- ④ 12 inch minimum wall height above all pipes.
- ⑤ Slope of 1.5% or as specified in the contract documents.

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	60"	66"

FIGURE 6010.509 SHEET 3 OF 3

		REVISION
		6 04-21-20
FIGURE 6010.509	STANDARD ROAD PLAN	SW-509
		SHEET 3 of 3
<small>REVISIONS: Added Class I Bedding Material and changed maximum box out length to 17'.</small>		
<small>Paul D. Wiegand SUDAS DIRECTOR</small>		<small>Stuart Nadeau DESIGN METHODS ENGINEER</small>
DOUBLE OPEN-THROAT CURB INTAKE, SMALL BOX		



TYPICAL SECTION

CASE 1

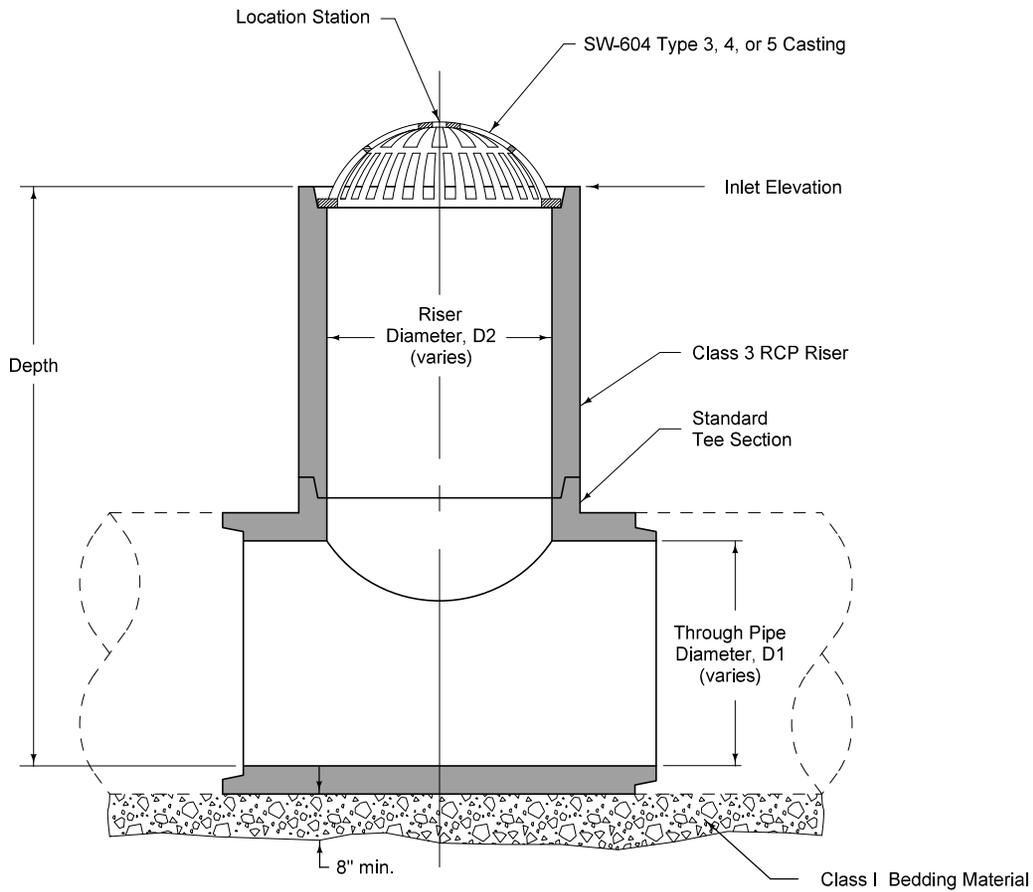
- ① Precast (shown) or cast-in-place base:
 - Precast: 6 inch thick concrete with #6 welded wire mesh on 4 inch centers (WWF 4" x 4"). Center mesh vertically within base.
 - Cast-in-place: 8 inch thick non-reinforced concrete.
- ② 12 inch minimum riser height above all pipes.

INTAKE SIZE - CASE 1	
Outlet Pipe Diameter, D1	Minimum Riser Diameter, D2
12"	18"
15"	24"
18"	24"
21"	30"
24"	30"
27"	36"

FIGURE 6010.512 SHEET 1 OF 2

SUDAS	IOWADOT	REVISION
		4 04-21-20
FIGURE 6010.512	STANDARD ROAD PLAN	SW-512
		SHEET 1 of 2
REVISIONS: Changed 1 to I on Bedding Material		
Paul D. Wigand SUDAS DIRECTOR		Shawn Miller DESIGN METHODS ENGINEER
CIRCULAR AREA INTAKE		

③ Minimum riser diameter is 18 inches.



TYPICAL SECTION

CASE 2

INTAKE SIZE - CASE 2	
Through Pipe Diameter, D1	Maximum Riser Diameter, D2 ③
18"	18"
21"	18"
24"	24"
27"	24"
30"	30"
36" or more	36"

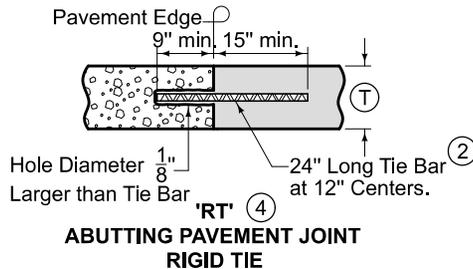
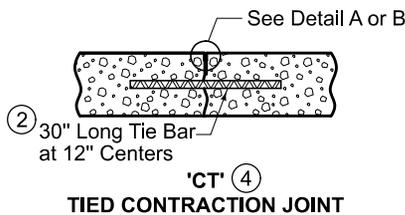
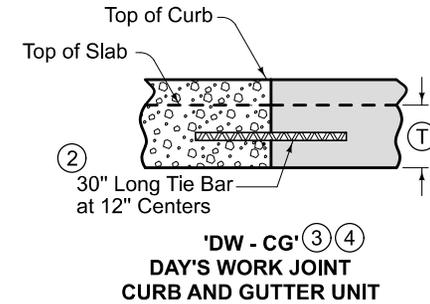
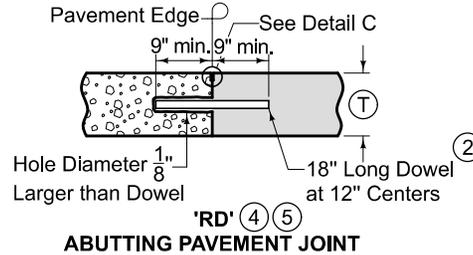
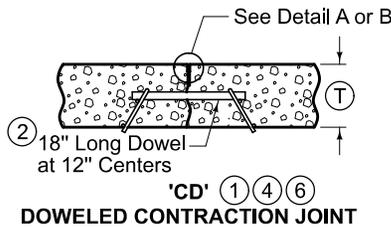
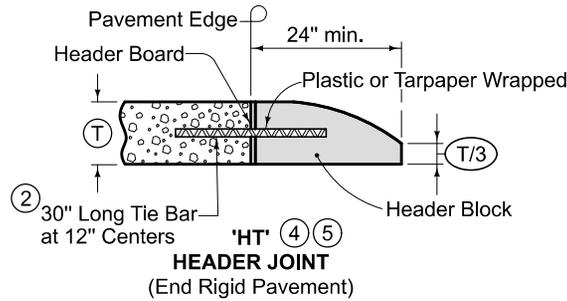
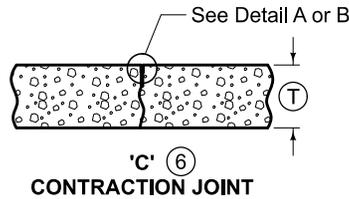
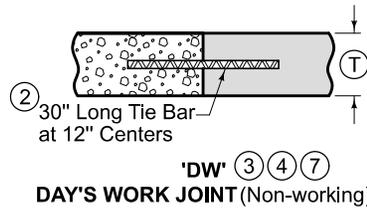
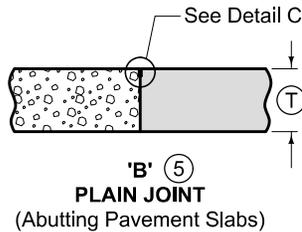
SUDAS	IOWADOT	REVISION
		4 04-21-20
FIGURE 6010.512	STANDARD ROAD PLAN	SW-512
		SHEET 2 of 2

REVISIONS: Changed 1 to 1 on Bedding Material

Paul D. Wigand
 SUDAS DIRECTOR

Stuart M. Nelson
 DESIGN METHODS ENGINEER

CIRCULAR AREA INTAKE



- ① See dowel assemblies for fabrication details.
- ② See Bar Size Table for Contraction Joints on Sheet 2.
- ③ Locate 'DW' joint at a mid-panel location between future 'C' or 'CD' joints. Place no closer than 5 feet to a 'C' or 'CD' joint.
- ④ Place bars within the limits shown under dowel assemblies.
- ⑤ Edge with 1/8 inch tool for length of joint. For HT joint, remove header block and board when second slab is placed.
- ⑥ Unless specified otherwise, use 'CD' transverse contraction joints in mainline pavement when (T) is greater or equal to 8 inches. Use 'C' joints when (T) is less than 8 inches.
- ⑦ 'RT' joint may be used in lieu of 'DW' joint at the end of the days work. Remove any pavement damaged due to the drilling at no additional cost to the Contracting Authority.

LEGEND	
	Existing Pavement
	Proposed Pavement

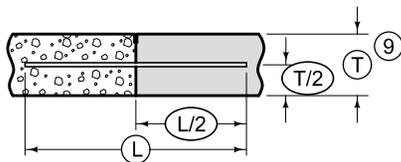
	IOWA DOT	REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 1 of 8

REVISIONS: Added oval dowel bars, Added BT-6 joint

SUDAS DIRECTOR	DESIGN METHODS ENGINEER

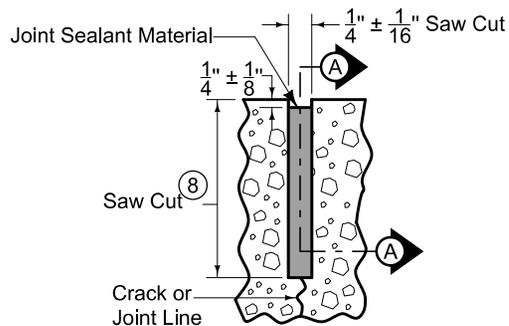
JOINTS

TRANSVERSE CONTRACTION



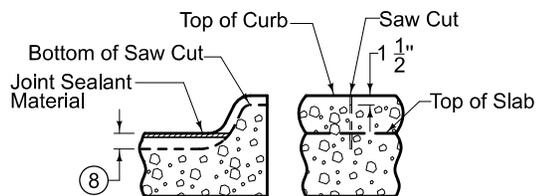
BAR PLACEMENT

(Applies to all joints unless otherwise detailed.)



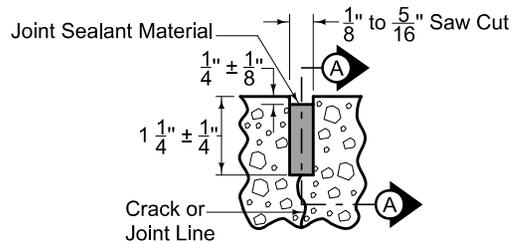
DETAIL A

(Saw cut formed by conventional concrete sawing equipment.)



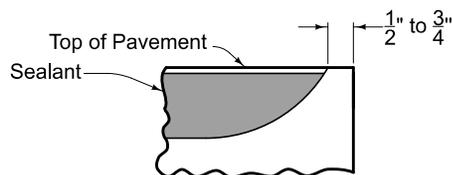
'C' JOINT IN CURB

(Match 'CT', 'CD', or 'C' joint in pavement.)



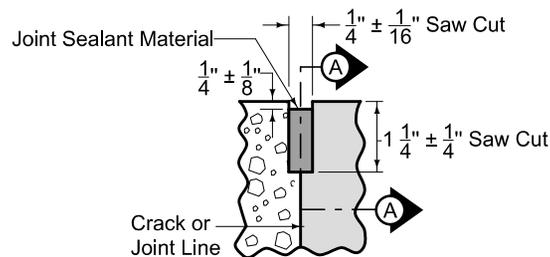
DETAIL B

(Saw cut formed by approved early concrete sawing equipment.)



SECTION A-A

(Detail at Edge of Pavement)



DETAIL C

- ⑧ Saw 'CD' joint to a depth of $T/3 \pm 1/4$ "; saw 'C' joint to a depth of $T/4 \pm 1/4$ ".
- ⑨ When tying into old pavement, T represents the depth of sound PCC.

BAR SIZE TABLE FOR CONTRACTION JOINTS

T	Solid Dowel Diameter	Tubular Dowel Diameter	Elliptical	Tie Bar Size
< 8"	3/4"	7/8"	N/A	#6
≥ 8" but < 10"	1 1/4"	1 3/8"	Small	#10
≥ 10"	1 1/2"	1 5/8"	Medium	#11

Tubular and Elliptical Dowel Bars will not be allowed for RD joints.

LEGEND

	Existing Pavement
	Proposed Pavement

	IOWA DOT	REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 2 of 8

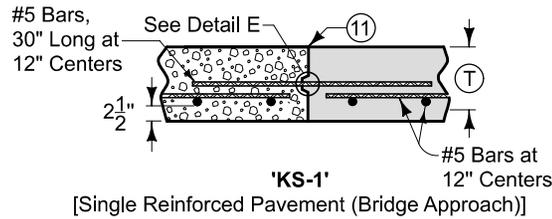
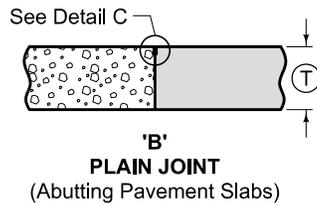
REVISIONS: Added oval dowel bars, Added BT-6 joint

J.P.L.
SUDAS DIRECTOR

Steve Miller
DESIGN METHODS ENGINEER

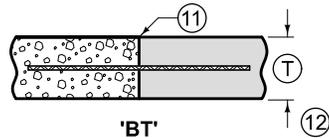
TRANSVERSE CONTRACTION

JOINTS



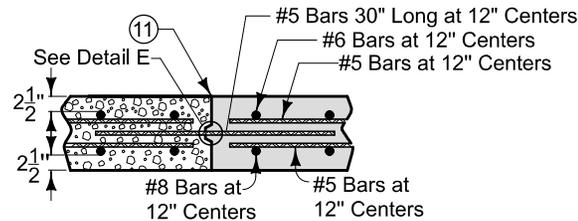
- ⑩ Bar supports may be necessary for fixed form paving to ensure the bar remains in a horizontal position in the plastic concrete.
- ⑪ Sawing or sealing of joint not required.
- ⑫ The following joints are interchangeable, subject to the pouring sequence:
'L-1', 'BT-1', and 'KT-1'
'L-2', 'BT-2', and 'KT-2'
'L-3', 'BT-6', and 'KT-3'

KT joints should not be used when DOT is contracting authority.



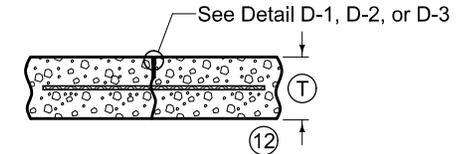
'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE

Ⓣ	Joint	Bars	Bar Length and Spacing
< 8"	'BT-1'	#4	36" Long at 30" Centers
		#5	30" Long at 30" Centers
≥ 8"	'BT-2'	#5	36" Long at 30" Centers
	'BT-6'	#5	36" Long at 15" Centers



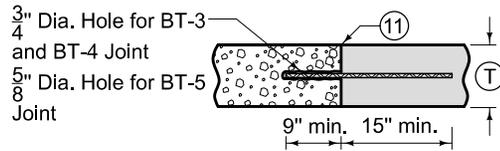
'KS-2'

[Double Reinforced Pavement (Bridge Approach)]



'L'
CONTRACTION JOINT

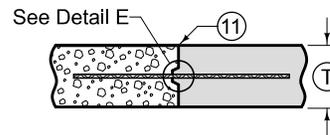
Ⓣ	Joint	Bars	Bar Length and Spacing
< 8"	'L-1'	#4	36" Long at 30" Centers
≥ 8"	'L-2'	#5	36" Long at 30" Centers
	'L-3'		36" Long at 15" Centers



'BT'

ABUTTING PAVEMENT JOINT - RIGID TIE (Drilled)

Ⓣ	Joint	Bars	Bar Length and Spacing
< 8"	'BT-5'	#4	24" Long at 30" Centers
≥ 8"	'BT-3'	#5	24" Long at 30" Centers
	'BT-4'		24" Long at 15" Centers



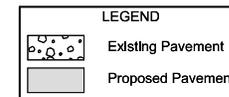
'K'

KEYED JOINT FOR ADJACENT SLABS
(Where T is 8" or more)

'KT'
ABUTTING PAVEMENT JOINT - KEYWAY TIE

Ⓣ	Joint	Bars	Bar Length and Spacing
< 8"	'KT-1'	#4	30" Long at 30" Centers
≥ 8"	'KT-2'	#5	30" Long at 30" Centers
	'KT-3'		30" Long at 15" Centers

LONGITUDINAL CONTRACTION



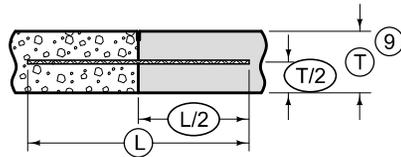
SUDAS	IOWA DOT	REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 3 of 8

REVISIONS: Added oval dowel bars, Added BT-6 joint

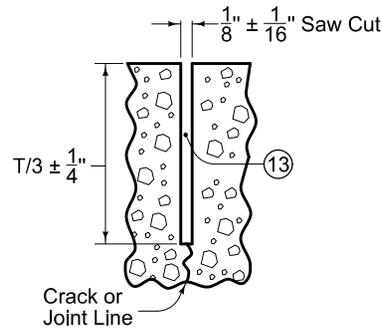
J.P. [Signature]
SUDAS DIRECTOR

[Signature]
DESIGN METHODS ENGINEER

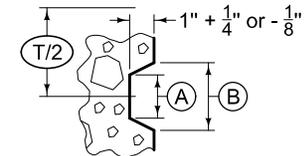
JOINTS



TIE BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)

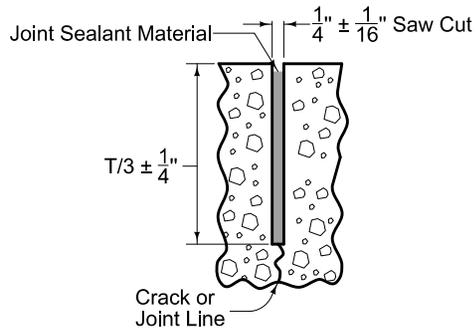


DETAIL D-1
(Required when specified in the contract documents.)

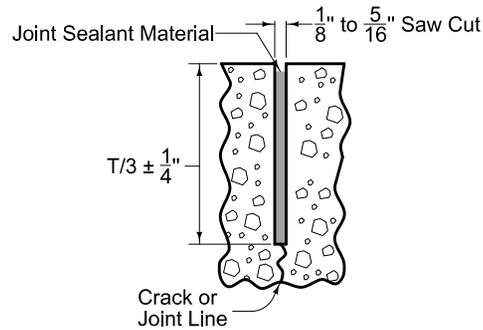


DETAIL E

- ⑨ When tying into old pavement, (T) represents the depth of sound PCC.
- ⑬ Sealant or cleaning not required.



DETAIL D-2
(Required when the Department of Transportation is not the Contracting Authority, or when specified in the contract documents)



DETAIL D-3
(Required when the Department of Transportation is the Contracting Authority, or when specified in the contract documents)

KEYWAY DIMENSIONS			
Keyway Type	Pavement Thickness (T)	(A)	(B)
Standard	8" or greater	1 3/4"	2 3/4"
Narrow	Less than 8"	1"	2"

LEGEND	
	Existing Pavement
	Proposed Pavement

	IOWA DOT	REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 4 of 8

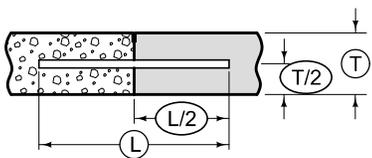
REVISIONS: Added oval dowel bars, Added BT-6 joint

J. P. C.
SUDAS DIRECTOR

Stuart Miller
DESIGN METHODS ENGINEER

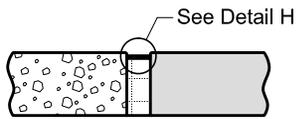
LONGITUDINAL CONTRACTION

JOINTS



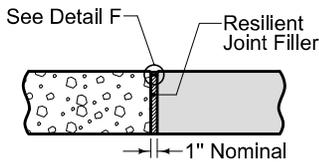
DOWEL PLACEMENT

(Applies to all joints unless otherwise detailed.)

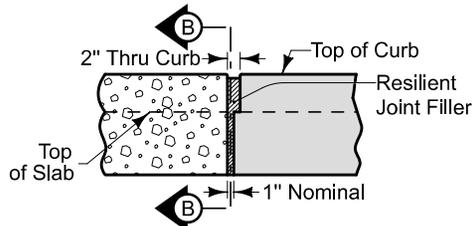


Width (See table below) **'CF' JOINT**

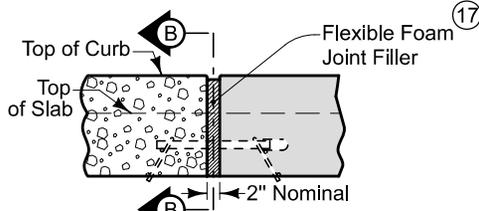
TYPE	WIDTH
CF-1	2"
CF-2	2 1/2"
CF-3	3"
CF-4	3 1/2"



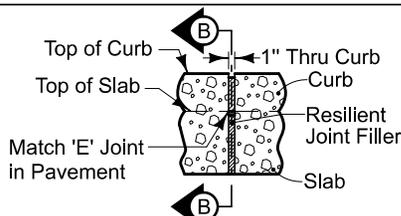
'E' 1" EXPANSION JOINT



'E' JOINT IN CURB
(View at Back of Curb)

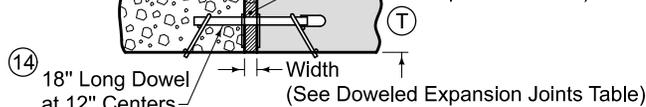


'EE' JOINT IN CURB
(View at Back of Curb)

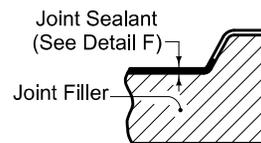


'ES' JOINT IN CURB
(View at Back of Curb)

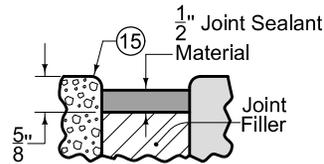
Detail F or Detail G (See Bar Size Table for Doweled Expansion Joints) Joint Filler Material (17) (See Bar Size Table for Doweled Expansion Joints)



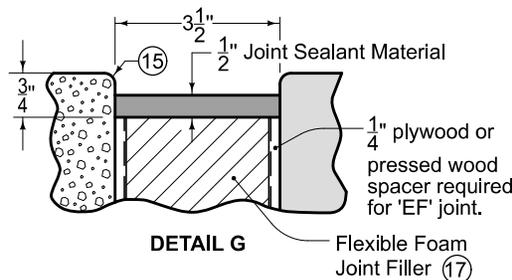
'ED', 'EE', 'EF' (16) DOWELED EXPANSION JOINT



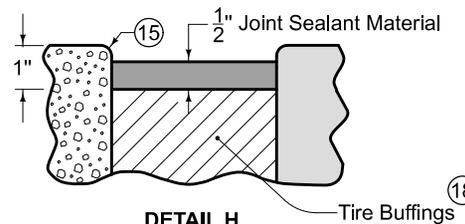
SECTION B-B



DETAIL F



DETAIL G



DETAIL H

EXPANSION

- (14) See Bar Size Table for Doweled Expansion Joints.
- (15) Edge with 1/4 inch tool for length of joint indicated if formed; edging not required when cut with diamond blade saw.
- (16) See Dowel Assemblies for fabrication details and placement limits. Coat the free end of dowel bar to prevent bond with pavement. At intake locations, dowel bars may be cast-in-place.
- (17) Predrill or preform holes in joint material for appropriate dowel size.
- (18) Compact tire buffings by spading with a square-nose shovel.

DOWELED EXPANSION JOINTS

TYPE	WIDTH	FILLER MATERIAL (17)
ED	1"	Resilient (Detail F)
EE	2"	Flexible Foam (Detail F)
EF	3 1/2"	Flexible Foam (Detail G)

BAR SIZE TABLE FOR DOWELED EXPANSION JOINTS

(T)	< 8"	≥ 8" but < 10"	≥ 10"
Dowel Diameter	3/4	1 1/4	1 1/2

Tubular, GFRP, and Elliptical Dowel Bars will not be allowed for expansion joints.

LEGEND

	Existing Pavement
	Proposed Pavement

		REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 5 of 8

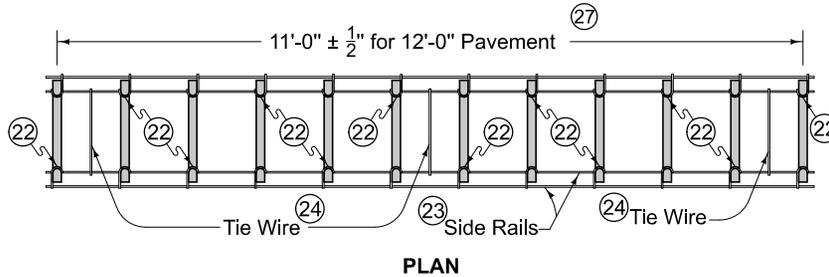
REVISIONS: Added ovel dowel bars, Added BT-6 joint

J.P. SUDAS
SUDAS DIRECTOR

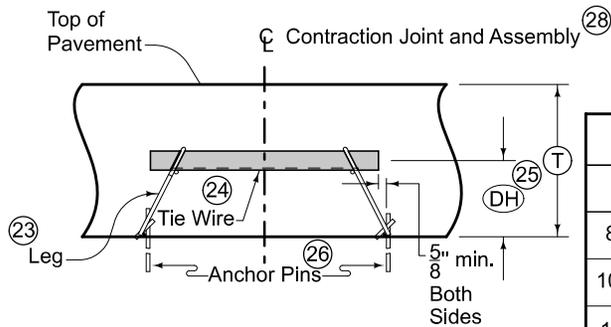
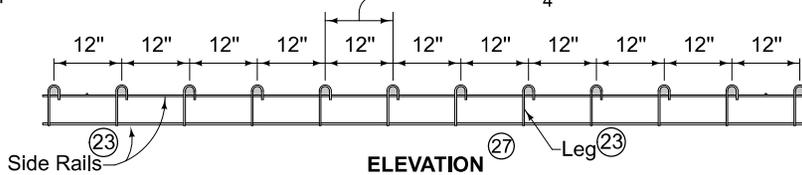
Shawn Miller
DESIGN METHODS ENGINEER

JOINTS

CONTRACTION JOINTS



Spaces between dowel bars are nominal dimensions with a $\frac{1}{4}$ " allowable tolerance.



LONGITUDINAL SECTION

DOWEL ASSEMBLIES

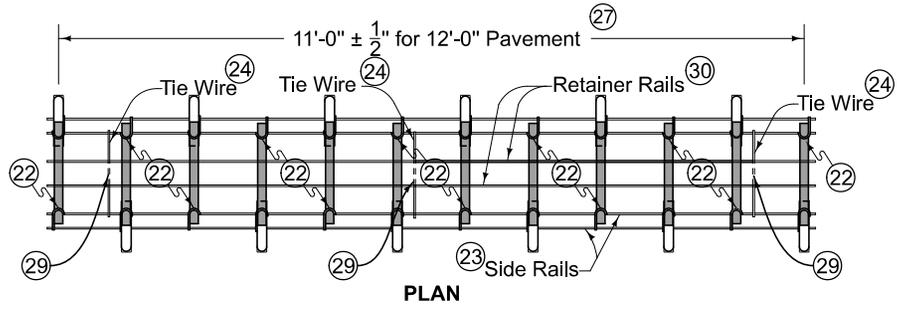
DOWEL HEIGHT AND DIAMETER FOR DOWELED CONTRACTION JOINTS				
(T)	(DH) (25)	Diameter (Solid)	Diameter (Tubular)	Elliptical
8" to 9 $\frac{1}{2}$ "	4 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	1 $\frac{3}{8}$ "	Small
10" to 11 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	Medium
12" to 13"	6 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{5}{8}$ "	Medium

Tubular, Elliptical Dowel Bars will not be allowed for RD joints.

- (19) Use 18 inch long dowel bars with a tolerance of $\pm 1/8$ inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within $\pm 1/8$ inch.
- (20) Use wires with a minimum tensile strength of 50 ksi.
- (21) Details apply to both transverse contraction and expansion joints.
- (22) Weld alternately throughout.
- (23) 0.306 inch diameter wire. Wire sizes shown are the minimum required.
- (24) Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.
- (25) Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.
- (26) Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.
- (27) If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.
- (28) Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

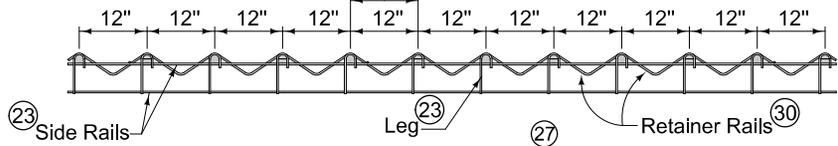
		REVISION	
		12	04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN		
SHEET 6 of 8			
REVISIONS: Added oval dowel bars, Added BT-6 joint			
 SUDAS DIRECTOR		 DESIGN METHODS ENGINEER	
JOINTS			

EXPANSION JOINTS

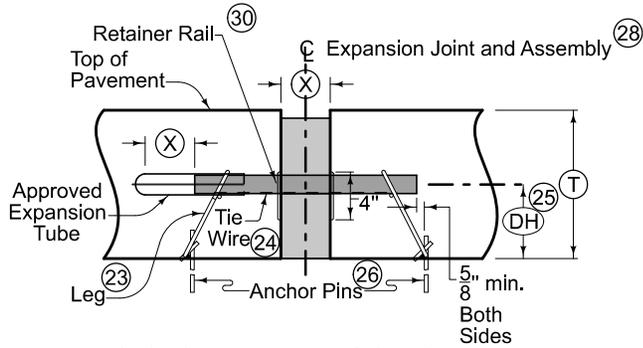


PLAN

Spaces between dowel bars are nominal dimensions with a 1/4" allowable tolerance.



ELEVATION



SECTION THRU EXPANSION JOINT

JOINT OPENING AND EXPANSION TUBE EXTENSION		
Joint Type	(X)	Minimum Tube Length
"ED"	1"	6"
"EE"	2"	7"
"EF"	3 1/2"	9"

DOWEL HEIGHT AND DIAMETER FOR DOWELED EXPANSION JOINTS

(T)	(DH) (25)	Diameter
8" to 9 1/2"	4 1/4"	1 1/4"
10" to 11 1/2"	5 1/4"	1 1/2"
12" to 13"	6 1/4"	1 1/2"

Tubular, GFRP, and Elliptical Dowel Bars will not be allowed for expansion joints.

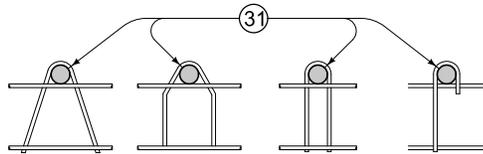
DOWEL ASSEMBLIES

(19) (20) (21)

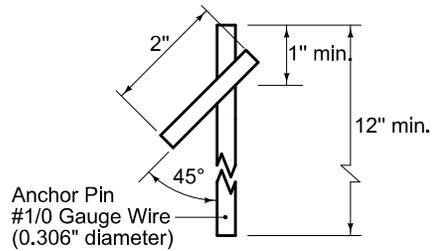
- (19) Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.
- (20) Use wires with a minimum tensile strength of 50 ksi.
- (21) Details apply to both transverse contraction and expansion joints.
- (22) Weld alternately throughout.
- (23) 0.306 inch diameter wire. Wire sizes shown are the minimum required.
- (24) Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.
- (25) Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.
- (26) Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.
- (27) If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.
- (28) Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.
- (29) Clip and remove center portion of tie during field assembly.
- (30) 1/4 inch diameter wire.

FIGURE 7010.101 SHEET 7 OF 8

SUDAS	IOWA DOT	REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 7 of 8
REVISIONS: Added oval dowel bars, Added BT-6 joint		
 SUDAS DIRECTOR		 DESIGN METHODS ENGINEER
JOINTS		

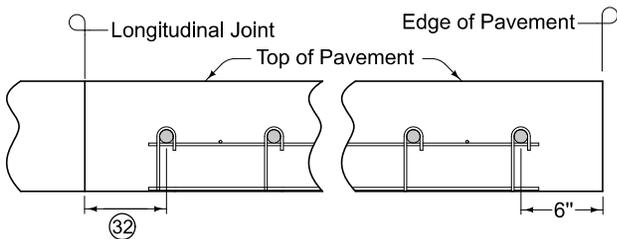


OPTIONAL LEG SHAPES

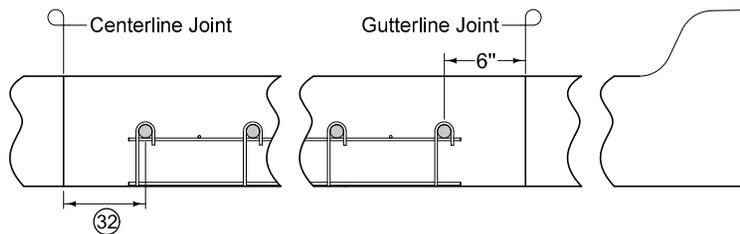


ANCHOR PIN

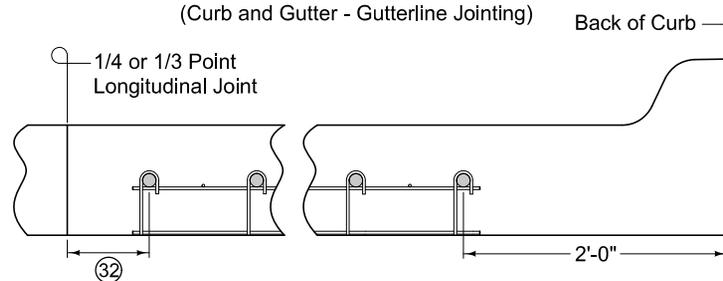
- ①9 Use 18 inch long dowel bars with a tolerance of $\pm 1/8$ inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within $\pm 1/8$ inch.
- ②0 Use wires with a minimum tensile strength of 50 ksi.
- ②1 Details apply to both transverse contraction and expansion joints.
- ③1 Diameter of bend around dowel is dowel diameter + $1/8$ to $3/16$ inches.
- ③2 For uniform lane widths: 3 to 6 inches. For taper and variable width pavements: 3 to 12 inches.



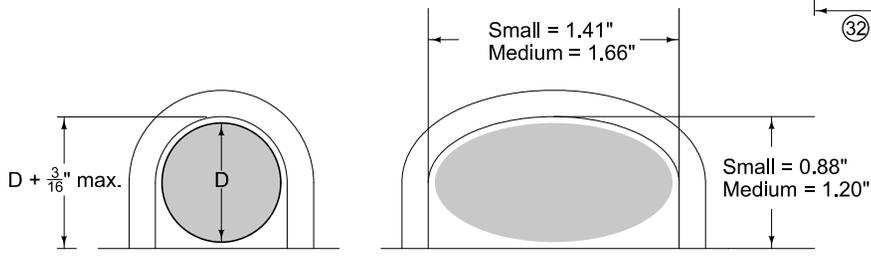
**PLACEMENT LIMITS
(Rural Section)**



**PLACEMENT LIMITS
(Curb and Gutter - Gutterline Jointing)**



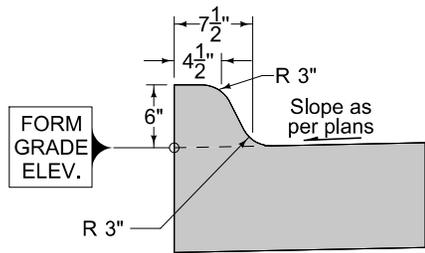
**PLACEMENT LIMITS
(Curb and Gutter - 1/4 or 1/3 Point Jointing)**



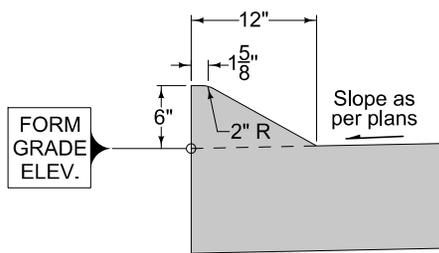
BEND AROUND DOWEL

DOWEL ASSEMBLIES ①9 ②0 ②1

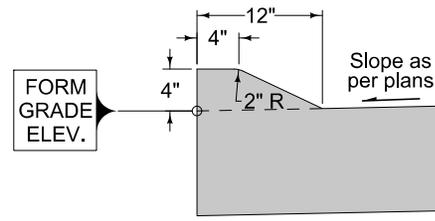
		REVISION
		12 04-15-25
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101
		SHEET 8 of 8
REVISIONS: Added oval dowel bars, Added BT-6 joint		
SUDAS DIRECTOR		DESIGN METHODS ENGINEER
JOINTS		



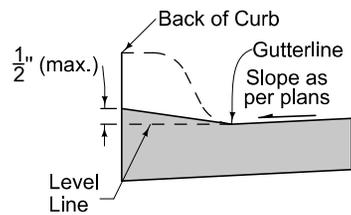
6" STANDARD CURB



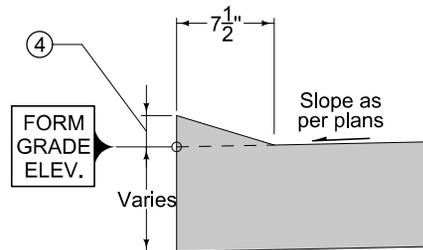
6" SLOPED CURB



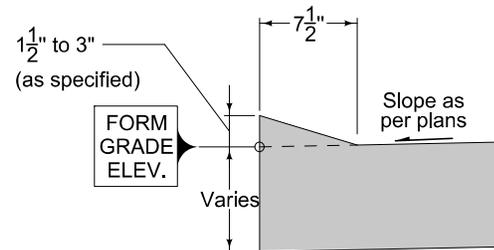
4" SLOPED CURB



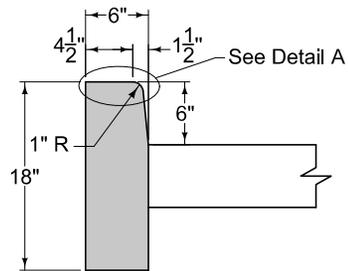
DROP CURB AT SIDEWALK



DRIVEWAY DROP CURB
(Iowa Department of Transportation is not the Contracting Authority)

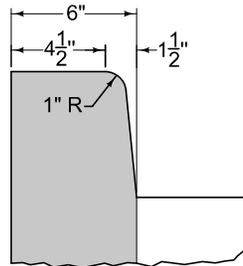


DRIVEWAY DROP CURB
(Iowa Department of Transportation is the Contracting Authority)

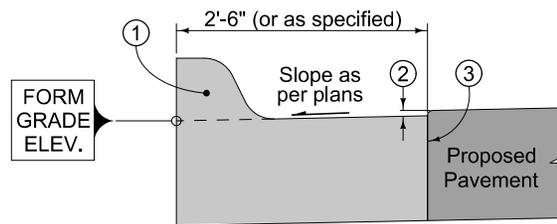


BEAM CURB*

*For short replacement sections, match existing curb profile



DETAIL A



CURB AND GUTTER UNIT

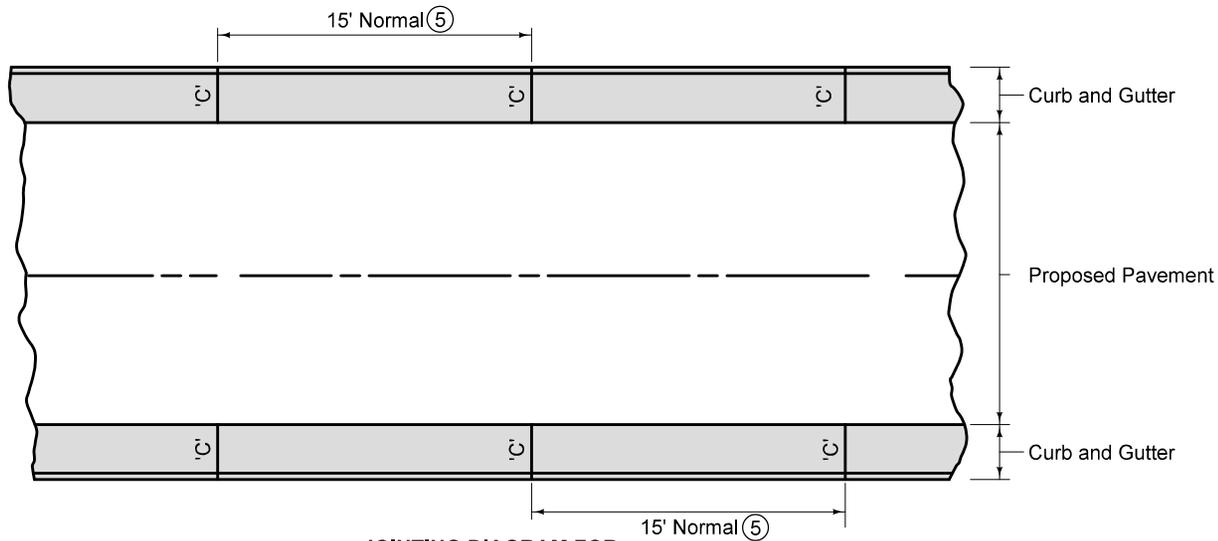
For joint details, see PV-101.

- ① 6 inch Standard Curb, 6 inch Sloped Curb, or 4 inch Sloped Curb as specified.
- ② 1/8 inch if Proposed Pavement is HMA. No elevation difference if Proposed Pavement is PCC.
- ③ 'BT', 'KT', or 'L' joint if Proposed Pavement is PCC. 'B' joint if Proposed Pavement is HMA.
- ④ 0 to 2 inches for residential entrances. 1 1/2 to 3 inches for industrial or commercial entrances.

FIGURE 7010.102 SHEET 1 OF 2

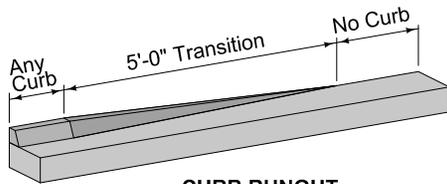
SUDAS IOWADOT FIGURE 7010.102 STANDARD ROAD PLAN	REVISION 5 04-21-20
	PV-102 SHEET 1 of 2
REVISIONS: Split DRIVEWAY DROP CURB detail into two details. Added new circle note 4 on Sheet 1, Renumbered circle note on Sheet 5.	
<i>Paul D. Wiegand</i> SUDAS DIRECTOR	<i>Shawn Miller</i> DESIGN METHODS ENGINEER

PCC CURB DETAILS

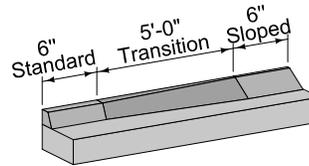


JOINTING DIAGRAM FOR CURB AND GUTTER UNIT

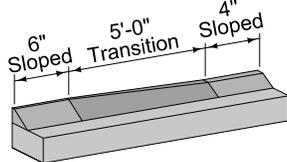
⑤ If proposed pavement is PCC, match joint spacing for proposed pavement. Place 'E' joints in curb and gutter section where expansion joints are to be placed in proposed pavement.



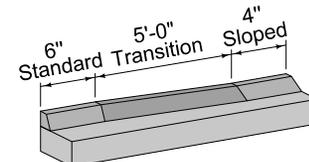
CURB RUNOUT FOR ALL CURBS



CURB TRANSITION FROM 6" STANDARD TO 6" SLOPED



CURB TRANSITION FROM 6" SLOPED TO 4" SLOPED



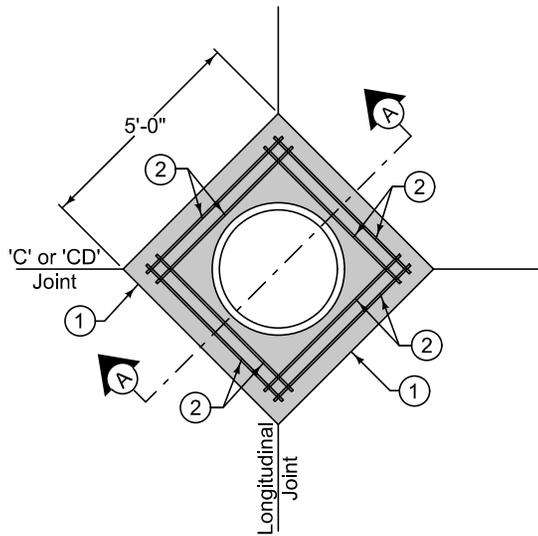
CURB TRANSITION FROM 6" STANDARD TO 4" SLOPED

FIGURE 7010.102

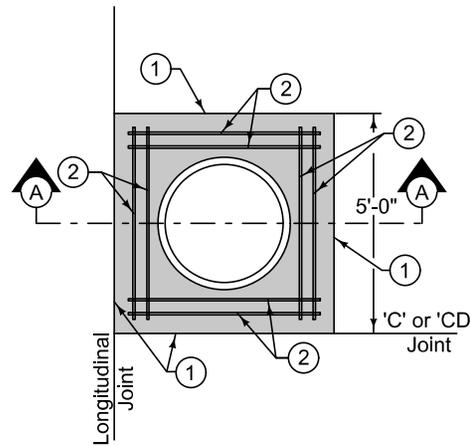
SHEET 2 OF 2

SUDAS	IOWADOT	REVISION
		5 04-21-20
FIGURE 7010.102	STANDARD ROAD PLAN	PV-102
		SHEET 2 of 2
<small>REVISIONS: Split DRIVEWAY DROP CURB detail into two details. Added new circle note 4 on Sheet 1. Renumbered circle note on Sheet 5.</small>		
Paul D. Wigand SUDAS DIRECTOR		Stuart Niles DESIGN METHODS ENGINEER

PCC CURB DETAILS



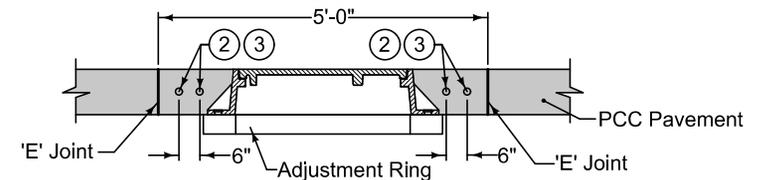
AT JOINT INTERSECTION



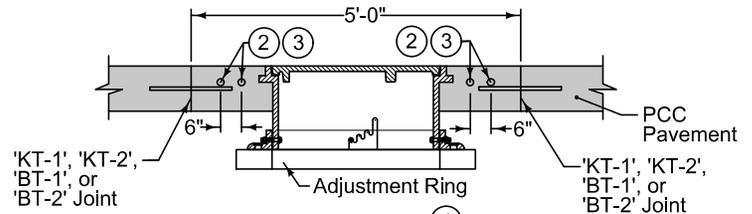
OFFSET AT JOINT INTERSECTION

Construct boxout with Class C concrete or match pavement class. Minimum 2 inches clear on reinforcement. Minimum 12 inches of concrete between outside of casting and nearest joint. Center casting within boxout area if possible.

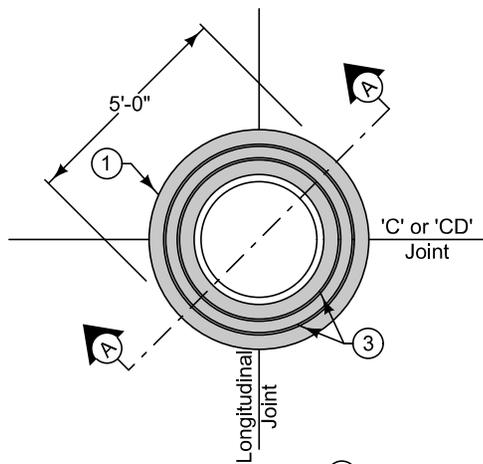
- ① 'KT-1', 'KT-2', 'BT-1', or 'BT-2' joint if three-piece floating casting (SW 601 Type B and D or SW-602 Type F) is used. 'E' joint if two-piece fixed casting (SW 601 Type A and C or SW-602 Type E) is used.
- ② 4 foot 8 inch (typ.) #4 bar. Place at mid-slab.
- ③ #4 hoops (variable length). Place at mid-slab.
- ④ No boxout is required for three-piece floating castings (SW 601 Type B and D or SW-602 Type F). If a boxout is used with a three-piece casting, construct as detailed in Section A-A for three-piece floating casting.
- ⑤ If a circular boxout is cut and extracted after PCC construction, a 'B' joint may be substituted for the 'E' joint if approved by the Engineer.



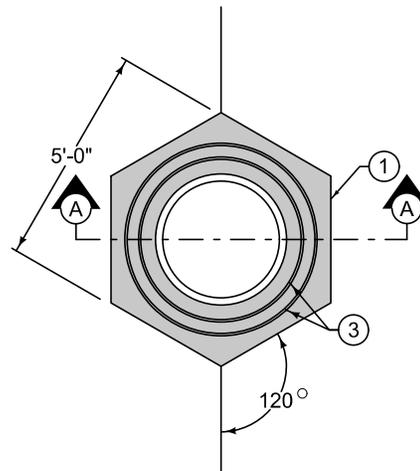
SECTION A-A
(For two-piece fixed casting)



SECTION A-A ④
(For three-piece floating casting)



CIRCULAR



AT A SINGLE JOINT

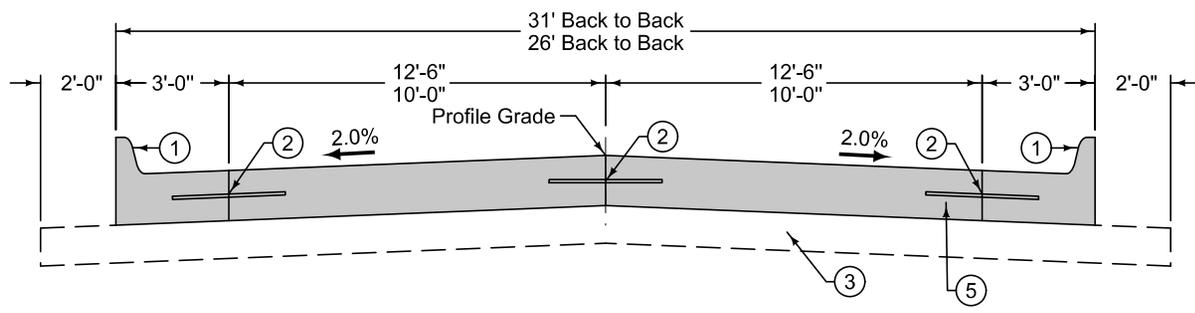
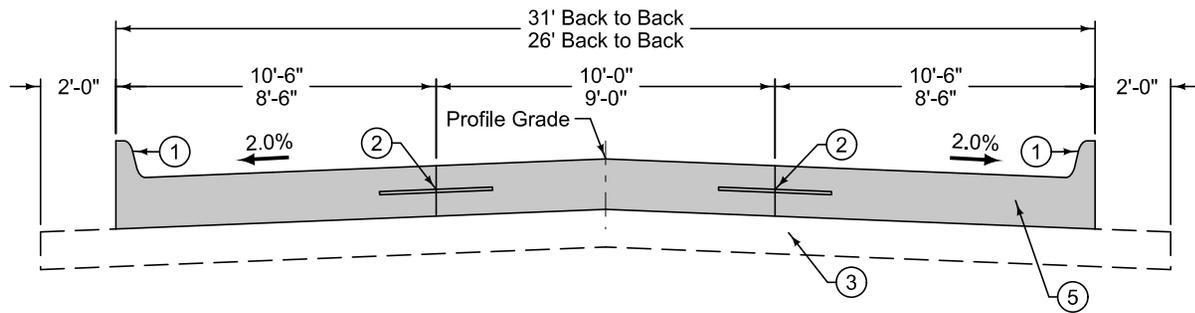
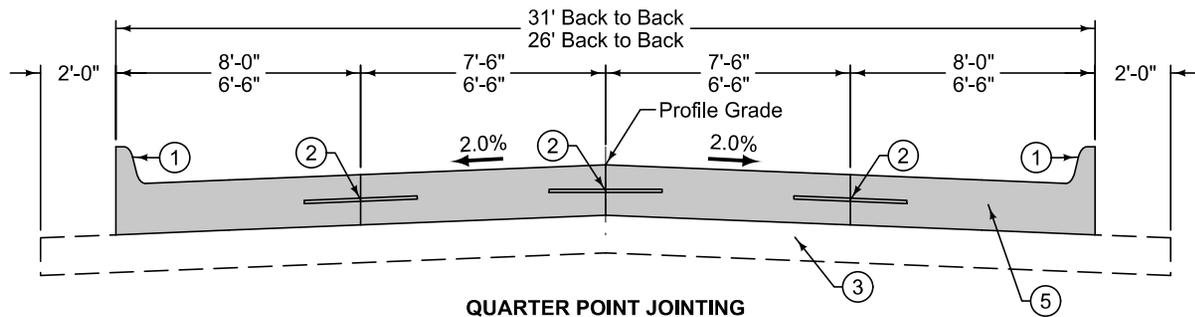
SUDAS	IOWADOT	REVISION
		2 04-19-22
FIGURE 7010.103	STANDARD ROAD PLAN	PV-103
		SHEET 1 of 1

REVISIONS: Added note 5.

Paul D. Weigand
SUDAS DIRECTOR

Steve Miller
DESIGN METHODS ENGINEER

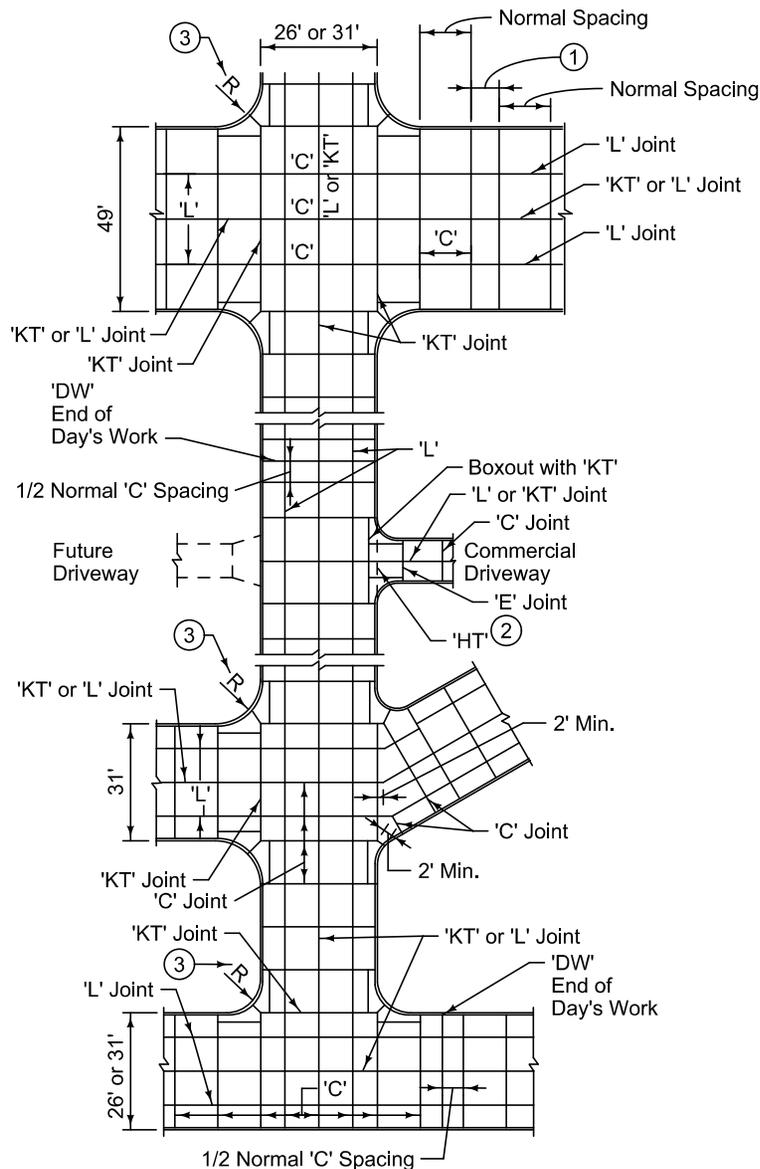
MANHOLE BOXOUTS IN
PCC PAVEMENT



- ① 6 inch standard curb.
- ② BT, KT, or L joint depending on pavement thickness and construction staging.
- ③ Subbase or subgrade as specified.
- ④ Unless otherwise specified in the contract documents.
- ⑤ No dowels within 24" of the back of curb. With gutterline joint, place first dowel 6 inches from the joint. See Figure 7010.101, Sheet 8.

TRANSVERSE JOINT REQUIREMENTS ④		
Pavement Thickness	Transverse Joint Type	Transverse Joint Spacing
6"	C	12'
7"	C	15'
8"	CD ⑤	15'
9"	CD ⑤	15'
≥10"	CD ⑤	17'

	SUDAS	<small>REVISION</small> 2 2022 Edition 7010.901
	<small>SHEET 1 of 1</small>	
SUDAS Standard Specifications		
PCC PAVEMENT JOINTING		



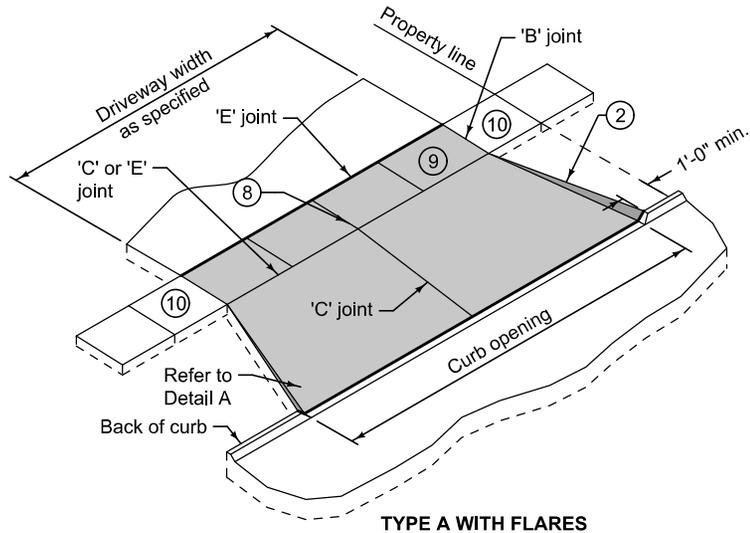
PLAN VIEW

Refer to Figure 7010.901 for maximum transverse joint spacing.

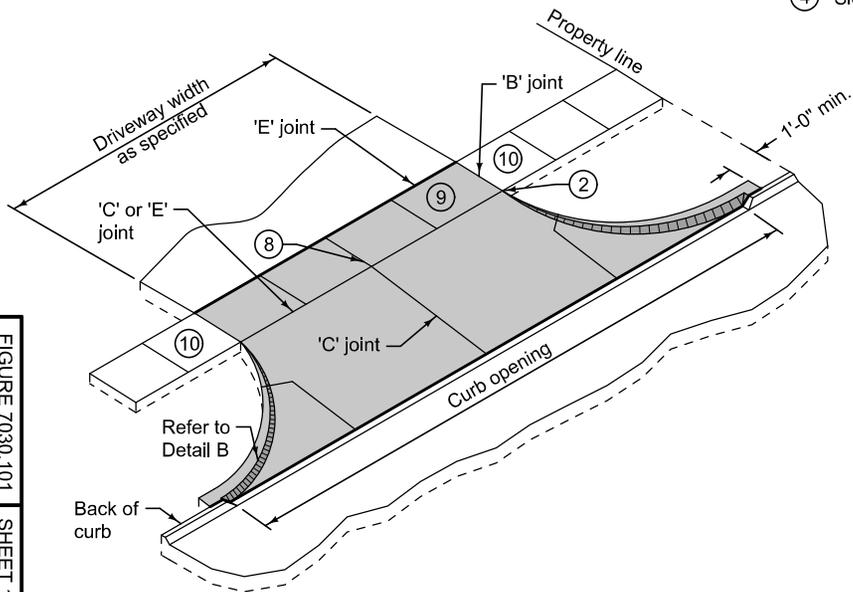
Where new and existing pavements meet, and no existing dowels, tie bars, or keyed joints are present, provide a 'BT', 'RT', or 'RD' joint.

- ① Shorten jointing pattern on either side of openings to allow joints to intersect round castings and fall at the edges of intake boxouts.
- ② Where pavement abuts an unimproved street, terminate with a type 'HT' joint.
- ③ When radius exceed 20 feet, add one additional 'C' joint at radius intersections.

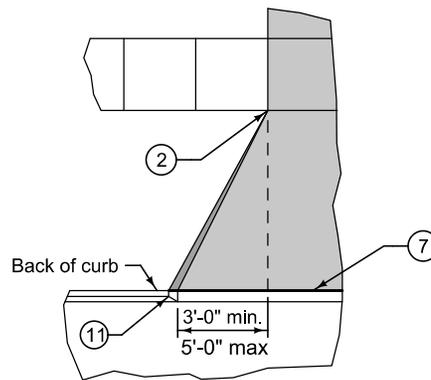
	SUDAS	<small>REVISION</small> New 10-19-10
	7010.904	<small>SHEET 1 of 1</small>
	SUDAS Standard Specifications	
TYPICAL JOINTING LAYOUT		



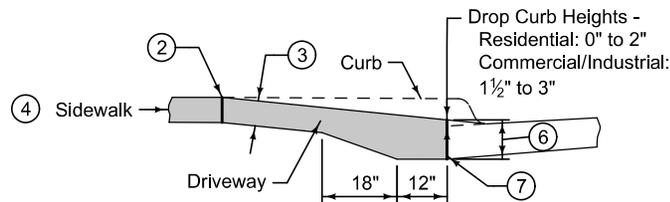
TYPE A WITH FLARES



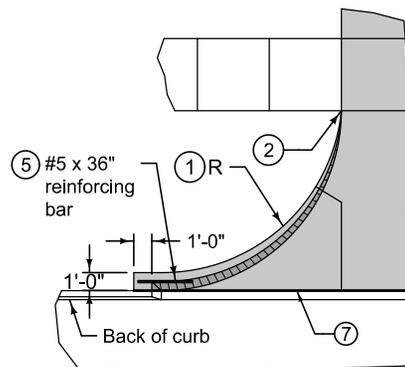
TYPE A WITH RADII



DETAIL A
(Residential/Agricultural Only)



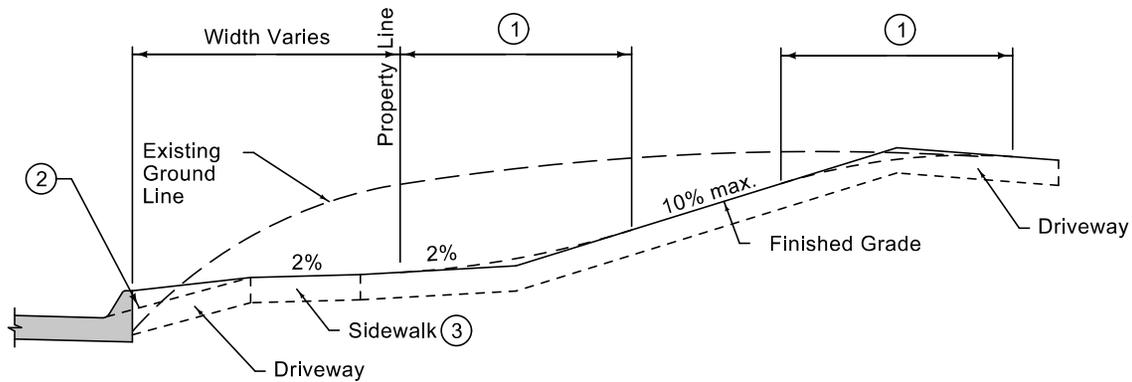
TYPICAL SECTION



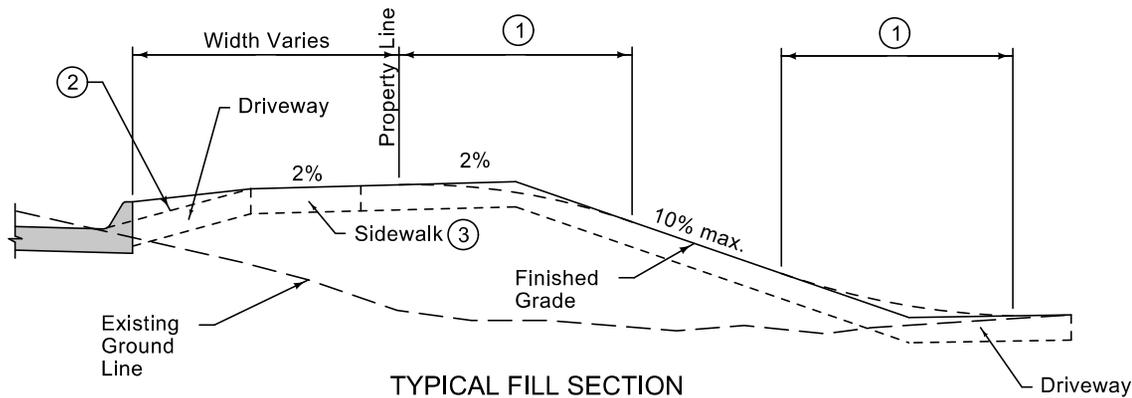
DETAIL B

- ① Driveway radius (R).
Residential: 10 foot minimum, 15 foot maximum.
Commercial and industrial: As specified in the contract documents.
- ② Transition the curb height to 0 inches at end of taper/radius or at the front edge of sidewalk. Do not extend raised curb across sidewalk.
- ③ Pavement thickness.
Residential: 6 inches minimum.
Commercial and industrial: 7 inches minimum.
- ④ Sidewalk thickness through driveway to match thickness of driveway.
- ⑤ Center reinforcing bar vertically in the pavement.
- ⑥ Match thickness of adjacent roadway, 8 inches minimum.
- ⑦ Provide 'E' joint at back of curb unless 'B' joint is specified.
- ⑧ For alleys, invert the pavement crown 2% toward center of alley.
- ⑨ Target cross slope of 1.5% with a maximum cross slope of 2.0%. If specified in the contract documents, construct the sidewalk through the driveway 5 feet wide to serve as a passing space.
- ⑩ If cross slope of adjacent sidewalk panel exceeds 2.0%, remove and replace to transition from existing sidewalk to sidewalk through driveway. If elevation change requires a curb ramp, comply with Figure 7030.205; verify need for detectable warning panel with Engineer.
- ⑪ Transition street curb at minimum 1:1 slope to meet driveway curb.

	REVISION 4 2022 Edition
	7030.101
	SHEET 1 of 1
SUDAS Standard Specifications	
CONCRETE DRIVEWAY, TYPE A	



TYPICAL CUT SECTION



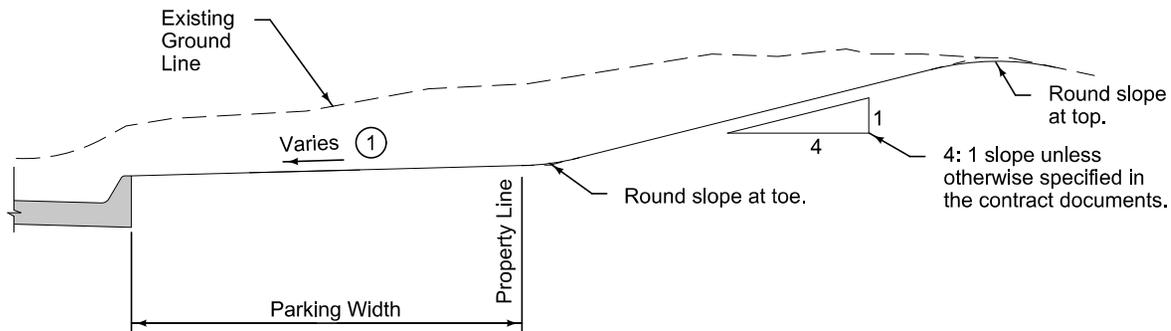
TYPICAL FILL SECTION

- ① 10 foot vertical curve required for 5% or greater change in grade.
- ② Slope varies. See contract documents.
- ③ Target cross slope of 1.5% with a maximum cross slope of 2.0%.

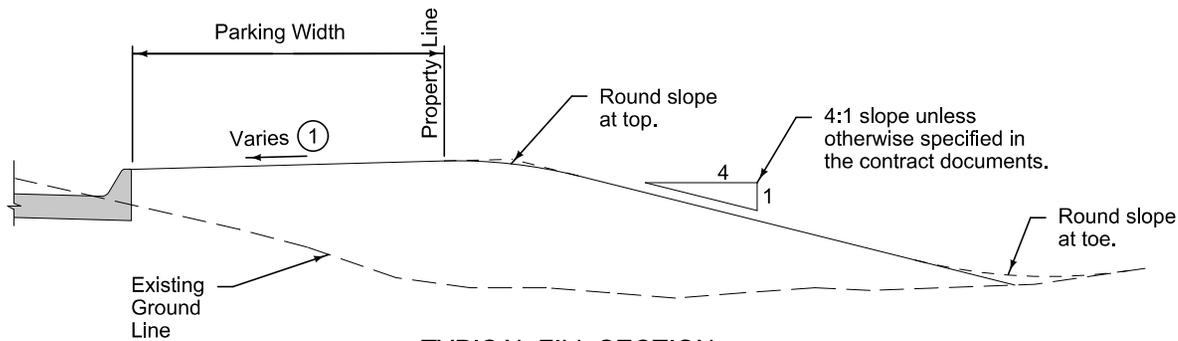
	REVISION
	2 10-20-15
	7030.103
SHEET 1 of 1	

SUDAS Standard Specifications

DRIVEWAY GRADING



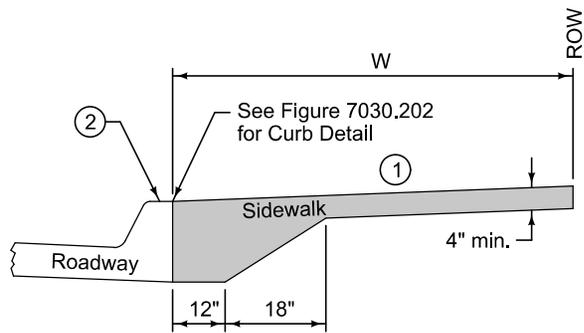
TYPICAL CUT SECTION



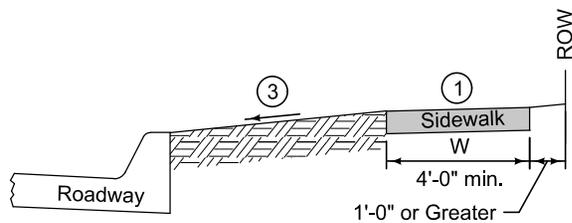
TYPICAL FILL SECTION

- ① Parking Slope:
 If parking width is less than 10 feet wide, slope at 1/4 inch per foot.
 If parking width is 10 feet wide and greater, slope at 1/2 inch per foot.

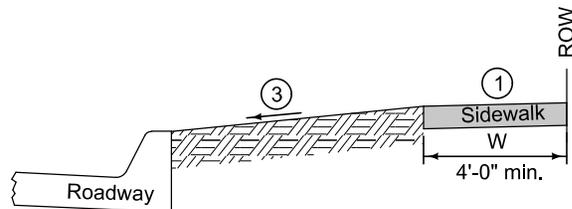
	REVISION	
	1	10-21-14
	7030.104 SHEET 1 of 1	
SUDAS Standard Specifications		
RIGHT-OF-WAY GRADING		



CLASS A SIDEWALK
(Sidewalk extends from back of curb to ROW)



CLASS B SIDEWALK



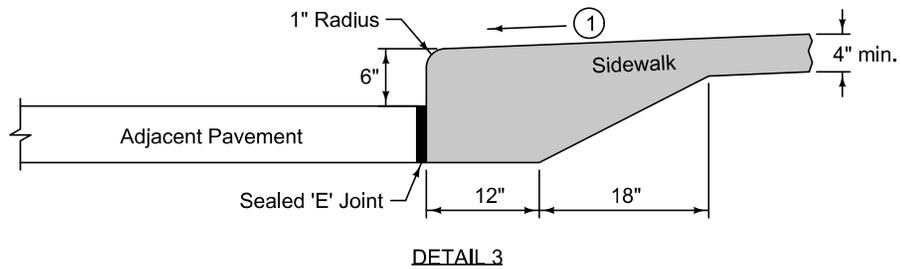
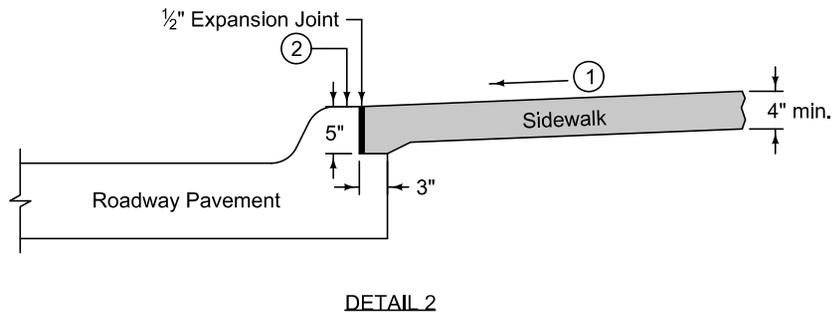
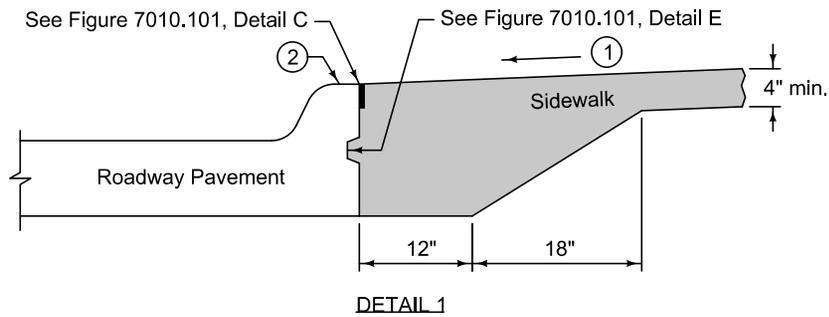
CLASS C SIDEWALK

- ① Target cross slope of 1.5% with a maximum cross slope of 2.0% (including sidewalk through driveway).
- ② Ensure top of curb slopes to street for drainage.
- ③ Parking Slopes:
If parking width is less than 10 feet wide, slope at ¼ inch per foot.
If parking width is 10 feet wide and greater, slope at ½ inch per foot.

Special grade may be specified in the contract documents.

W = Sidewalk width as specified in the contract documents.

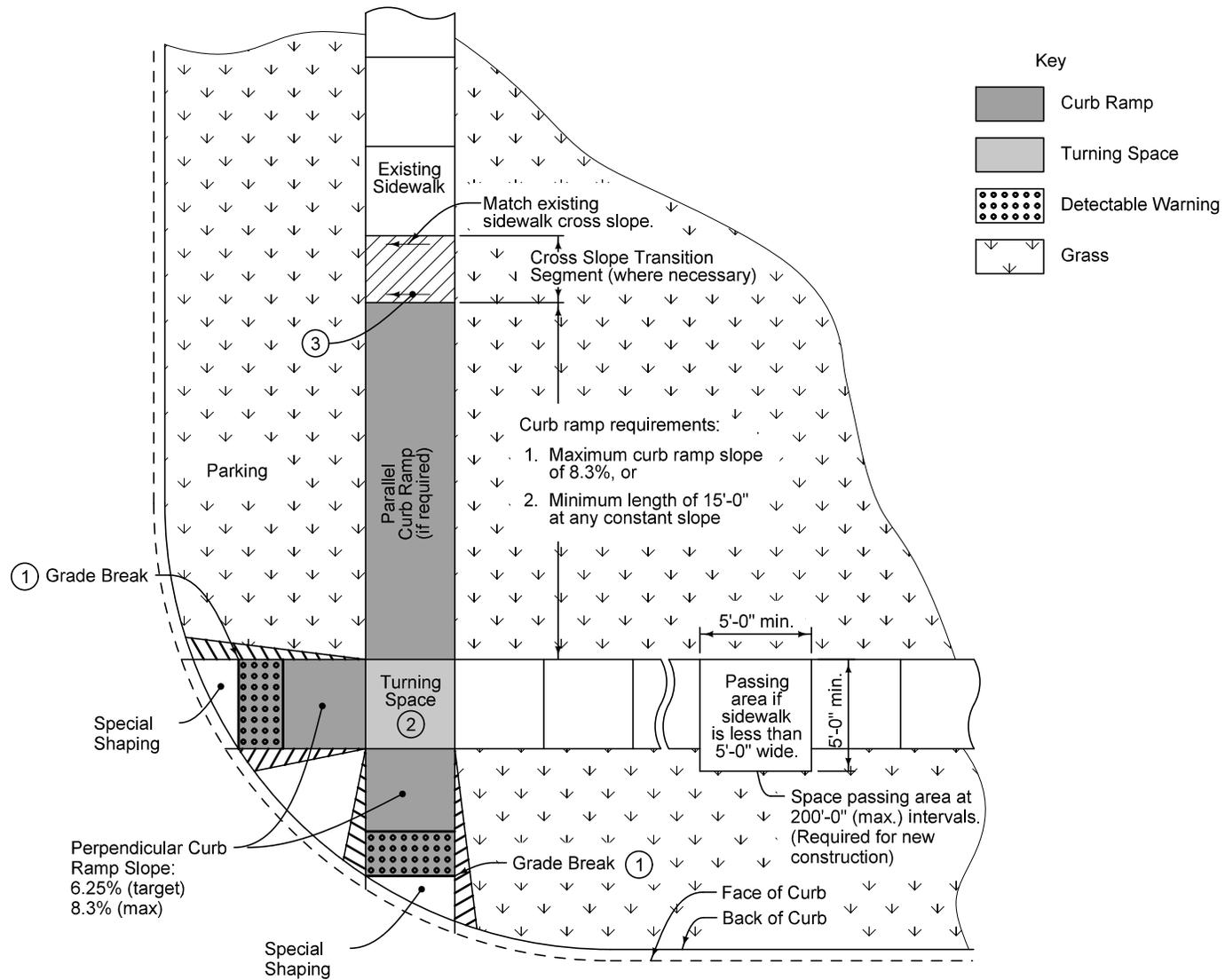
	<small>REVISION</small> 3 2022 Edition
	SUDAS 7030.201
	<small>SHEET 1 of 1</small>
SUDAS Standard Specifications	
CLASSES OF SIDEWALKS	



For new sidewalk with new curb and gutter, comply with Detail 1 or Detail 2. Comply with Detail 3 for new sidewalk adjacent to existing pavement or when specified in the contract documents.

- ① Target cross slope of 1.5% with a maximum cross slope of 2.0%.
- ② Ensure top of curb slopes to street for drainage.

 SUDAS	<small>REVISION</small> 3 2022 Edition
	7030.202
	<small>SHEET 1 of 1</small>
SUDAS Standard Specifications	
CURB DETAILS FOR CLASS A SIDEWALK	

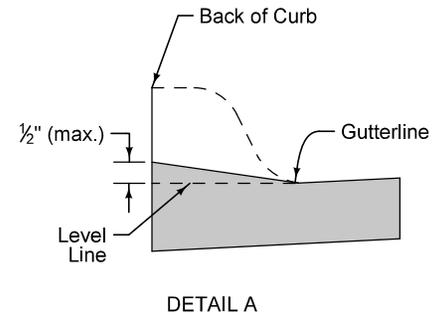
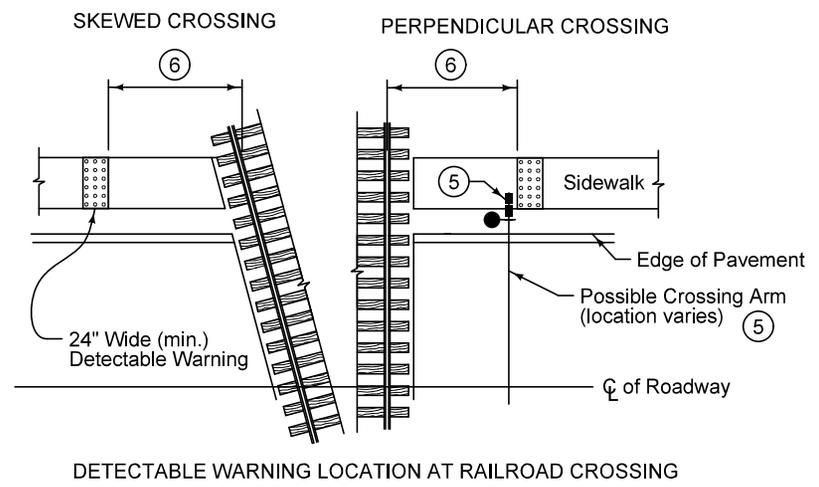
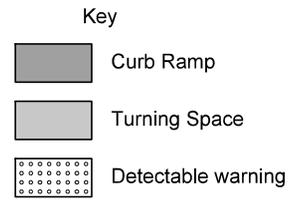
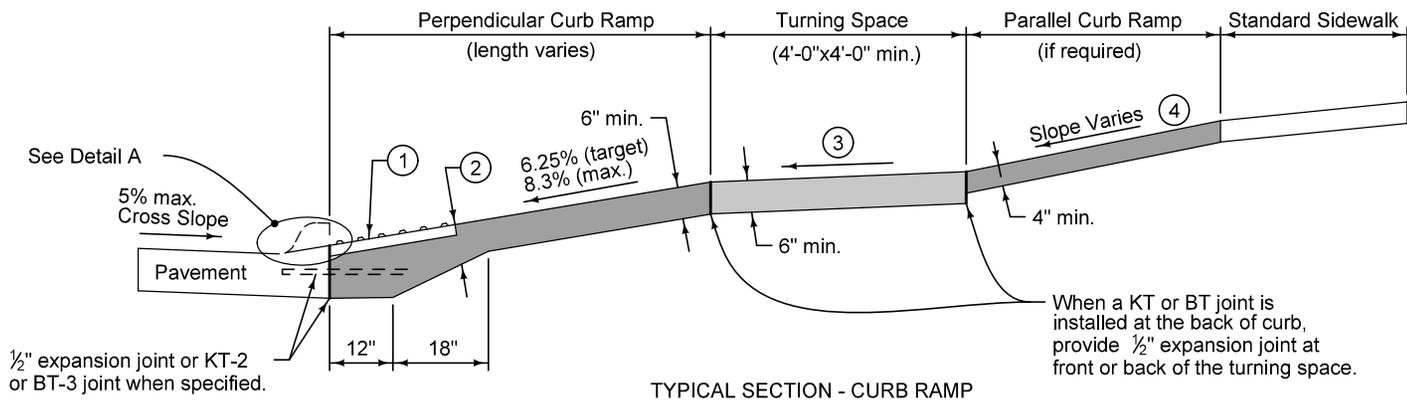


- ① Match pedestrian street crossing slope, or flatter.
- ② Minimum 4 feet by 4 feet. Target cross slope of 1.5% with a maximum cross slope of 2.0%.
- ③ Target cross slope of 1.5% with a maximum cross slope of 2.0%.

	REVISION
	3 10-20-15
	7030.204
SHEET 1 of 1	

SUDAS Standard Specifications

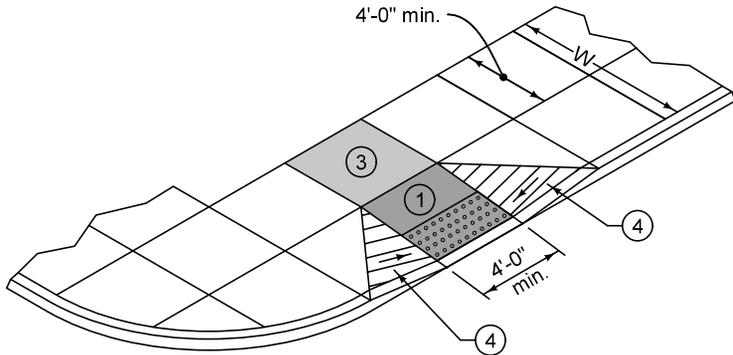
GENERAL FEATURES OF AN ACCESSIBLE SIDEWALK



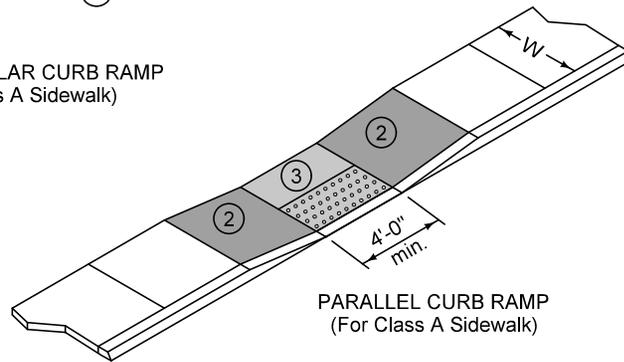
- Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.
 - Provide a minimum of 6 inches of concrete below the detectable warning panel.
 - Minimum 4 feet by 4 feet. Target cross slope of 1.5% with a maximum cross slope of 2.0%.
 - If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.
- The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.
- If crossing gate conflicts with location of detectable warning or if pedestrian crossing gate is provided, place detectable warning panel in advance of the crossing gate.
 - Locate front edge of detectable warning panel 12 to 15 feet from centerline of nearest rail. Orient truncated domes parallel to the direction of pedestrian travel.

FIGURE 7030.205 SHEET 1 OF 1

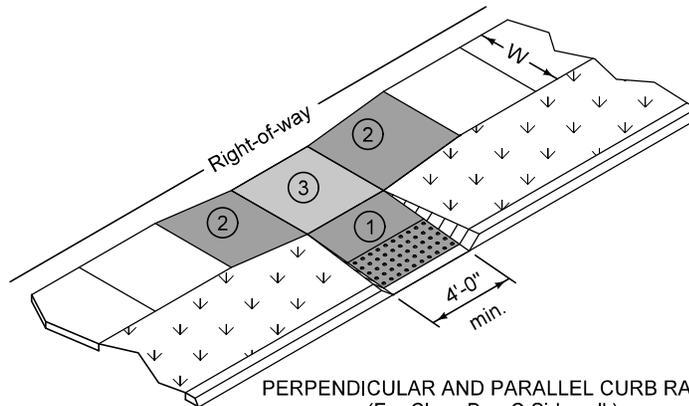
	REVISION
	1 10-20-15
	7030.205
SHEET 1 of 1	
SUDAS Standard Specifications	
GENERAL SIDEWALK AND CURB RAMP DETAILS	



PERPENDICULAR CURB RAMP
(For Class A Sidewalk)



PARALLEL CURB RAMP
(For Class A Sidewalk)



PERPENDICULAR AND PARALLEL CURB RAMP
(For Class B or C Sidewalk)

Key

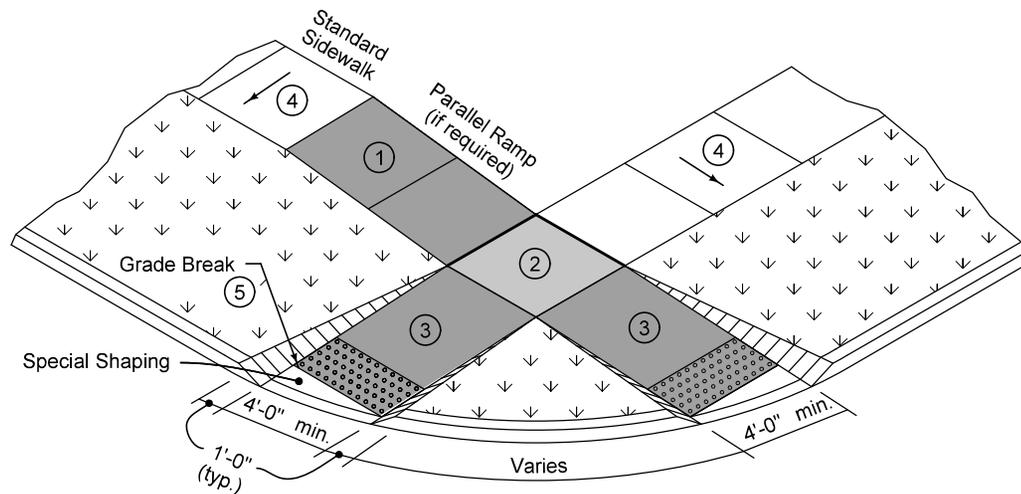
-  Curb Ramp
-  Turning Space
-  Detectable Warning

- ① Perpendicular Curb Ramp: Target running slope of 6.25% with maximum running slope of 8.3%. Match pedestrian street crossing cross slope at back of curb. At mid-block crossings, cross slope may exceed 2.0% to match roadway grade.
- ② Parallel Curb Ramp: Target cross slope of 1.5% with a maximum cross slope of 2.0%. The length of the parallel ramp is not required to exceed 15 feet, regardless of resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.
- ③ Turning Space: Target slope of 1.5%, with a maximum slope perpendicular to the travel directions of 2.0%. At mid-block crossings, cross slope of landing may exceed 2.0% to match roadway grade. Minimum 4 feet by 4 feet.
- ④ Flare (10:1 max.) required if ramp is contiguous with sidewalk.

	REVISION
	New 10-16-12
	7030.206
SHEET 1 of 1	

SUDAS Standard Specifications

CURB RAMPS OUTSIDE OF
INTERSECTION RADIUS



- ① Parallel Curb Ramp: If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

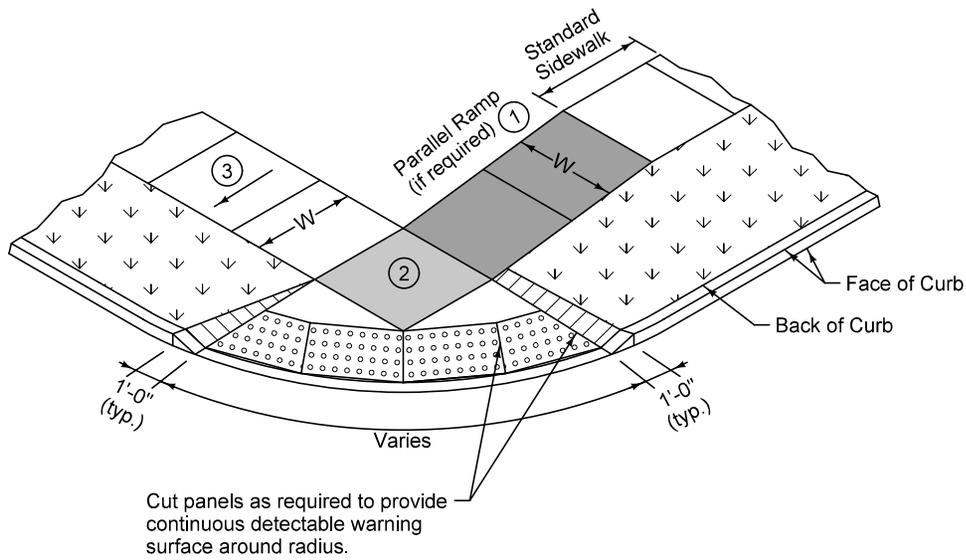
The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.

- ② Turning Space: Target slope of 1.5% with maximum slope perpendicular to the travel directions of 2.0%. Minimum 4 feet by 4 feet.
- ③ Perpendicular Curb Ramp: Target running slope of 6.25% with maximum running slope of 8.3%.
- ④ Target cross slope of 1.5% with a maximum cross slope of 2.0%.
- ⑤ Match pedestrian street crossing cross slope or flatter.

Key

-  Curb Ramp
-  Turning Space
-  Detectable warning
-  Grass

	<small>REVISION</small> New 10-16-12
	SUDAS 7030.207
	<small>SHEET 1 of 1</small>
SUDAS Standard Specifications	
CURB RAMP FOR CLASS B OR C SIDEWALK	



① Parallel Curb Ramp: If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

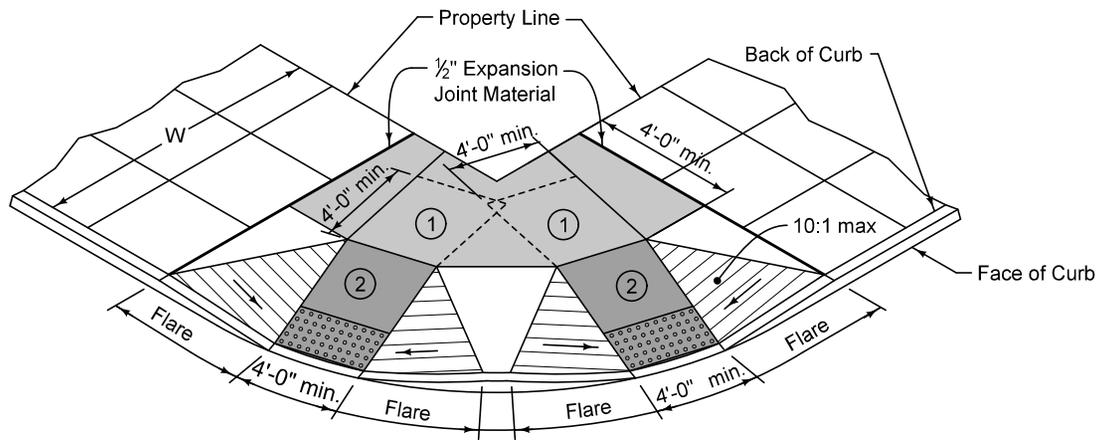
The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.

② Turning Space: Target slope of 1.5% with maximum slope perpendicular to the direction of travel of 2.0%. Minimum 4 feet by 4 feet.

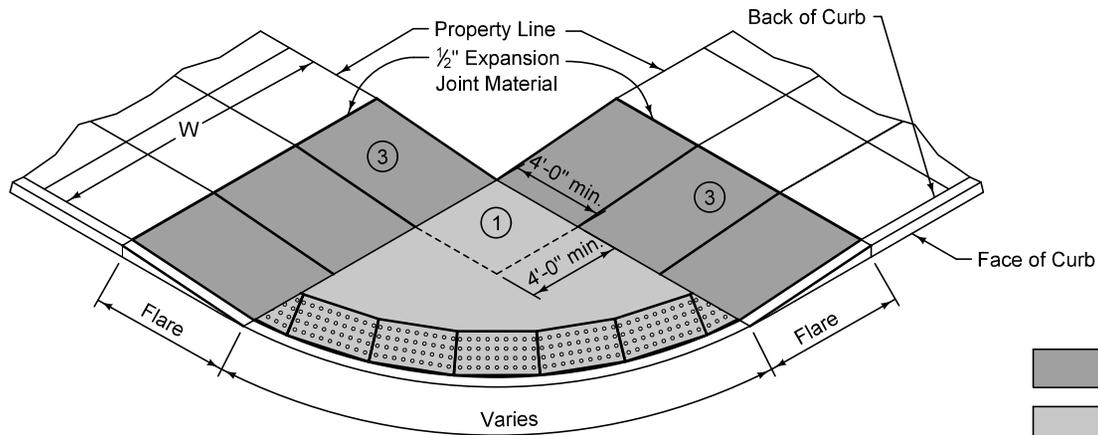
③ Target cross slope of 1.5% with a maximum cross slope of 2.0%.

- Key
-  Curb Ramp
 -  Turning Space
 -  Detectable warning
 -  Grass

	REVISION 1 2022 Edition
	7030.208
	SHEET 1 of 1
SUDAS Standard Specifications	
ALTERNATIVE CURB RAMP FOR CLASS B OR C SIDEWALK	



CLASS A SIDEWALK CURB RAMP

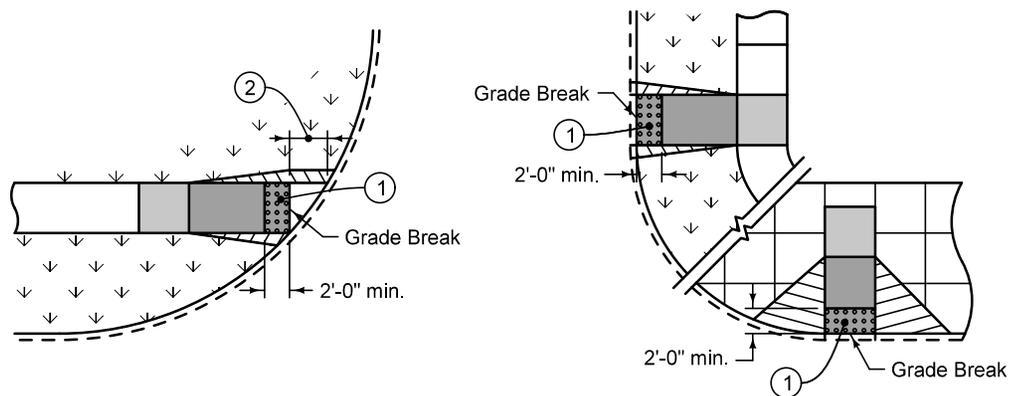


CLASS A SIDEWALK CURB RAMP ALTERNATIVE

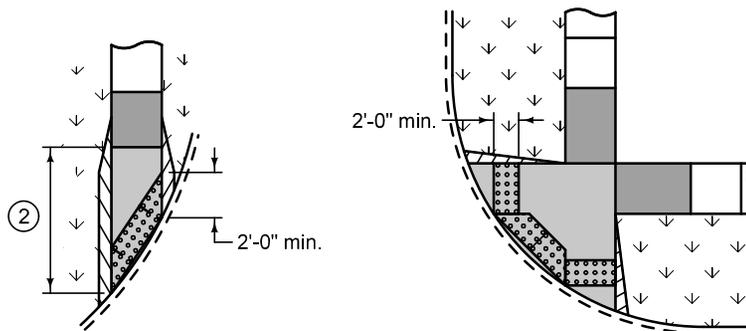
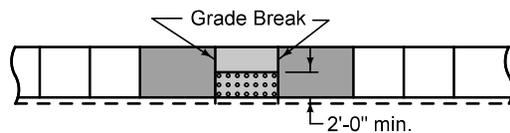
- Key
-  Curb Ramp
 -  Turning Space
 -  Detectable Warning

- ① Turning Space: Target slope of 1.5% with maximum slope perpendicular to the travel direction of 2.0%. Minimum 4 feet by 4 feet (turning spaces may overlap).
- ② Perpendicular Curb Ramp: Target running slope of 6.25% with maximum running slope of 8.3%.
- ③ Parallel Curb Ramp: Target running slope of 6.25% with maximum running slope of 8.3%. The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.3% for parallel ramps shorter than 15 feet.

	<small>REVISION</small> New 10-16-12
	SUDAS 7030.209
	<small>SHEET 1 of 1</small>
SUDAS Standard Specifications	
CURB RAMPS FOR CLASS A SIDEWALK	



PERPENDICULAR RAMPS



PARALLEL RAMPS

Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.

- ① When detectable warning is located on curb ramp surface, orient domes in the direction of pedestrian travel.
- ② When the distance between the grade break and the back of curb is less than 5 feet, place detectable warning surface at the bottom of the curb ramp.

Where one corner of the curb ramp is more than 5 feet from the back of curb, construct curb ramp as a parallel curb ramp. Move grade break back as required to place detectable warning on turning space at the back of curb.

Key

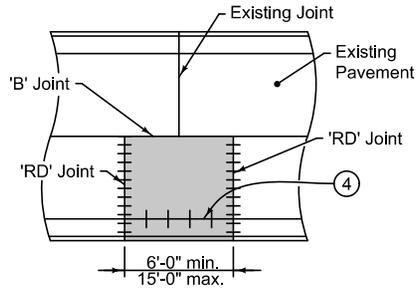
-  Curb Ramp
-  Turning Space
-  Detectable Warning

	REVISION
	New 10-16-12
	7030.210
SHEET 1 of 1	

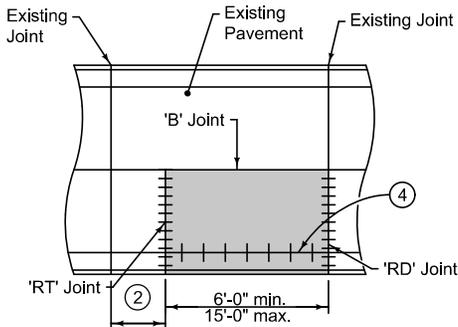
SUDAS Standard Specifications

DETECTABLE WARNING PLACEMENT

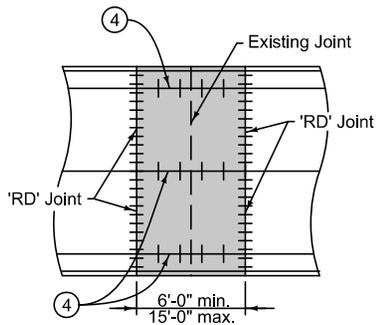
GUTTERLINE JOINTING



ONE PANEL WIDTH PATCH WITH OPPOSING JOINT

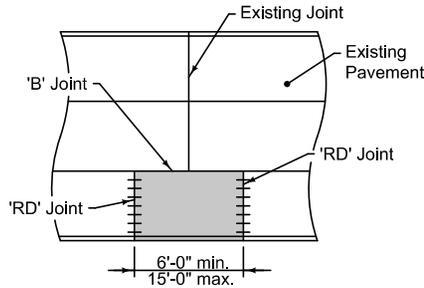


ONE PANEL WIDTH PATCH NO OPPOSING JOINT

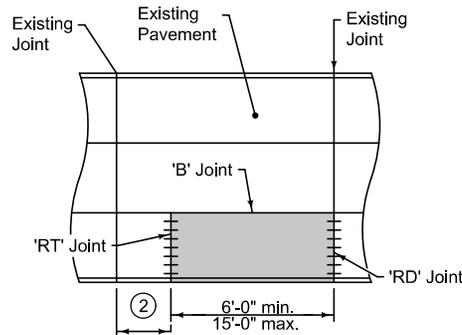


FULL ROADWAY WIDTH PATCH

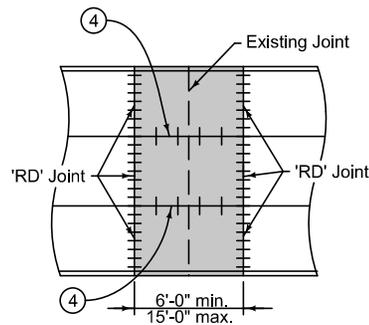
THIRD POINT JOINTING



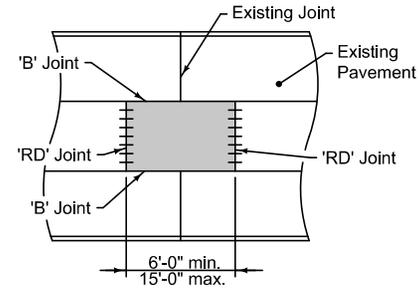
OUTSIDE PANEL PATCH WITH OPPOSING JOINT



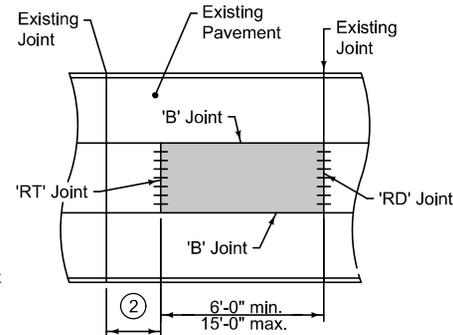
OUTSIDE PANEL PATCH NO OPPOSING JOINT



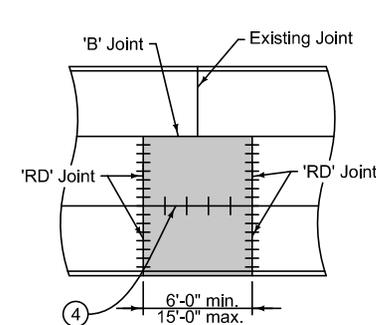
FULL ROADWAY WIDTH PATCH



CENTER PANEL PATCH WITH OPPOSING JOINTS



CENTER PANEL PATCH NO OPPOSING JOINT



ADJACENT PANELS PATCH

- ① Patches on roadways with quarter point jointing will be similar to third point jointing details.
- ② Minimum distance between existing joint and patch is 6 feet. If distance is less than 6 feet, extend patch to existing joint.
- ③ If subgrade or subbase material is required below patch, bring material to a level 2 inches below bottom of existing pavement.
- ④ BT, KT, or L joint depending on pavement thickness and pouring sequence.

LONGITUDINAL SECTION THRU PCC PATCH

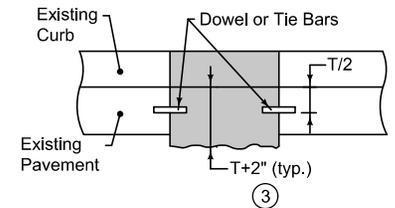


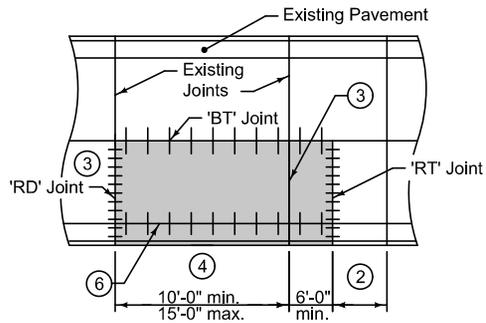
FIGURE 7040.101 SHEET 1 OF 1

	REVISION
	3 2021 Edition
	7040.101
SHEET 1 of 1	

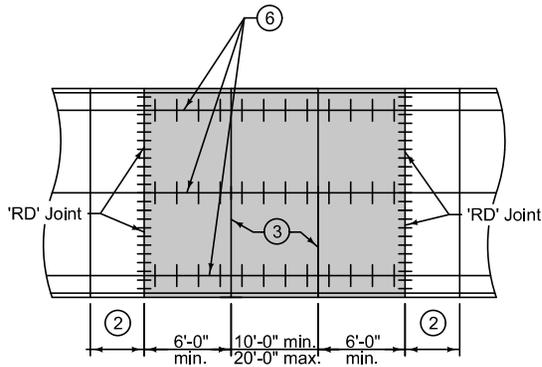
SUDAS Standard Specifications

FULL DEPTH PCC PATCHES LESS THAN OR EQUAL TO 15' LONG

GUTTERLINE JOINTING

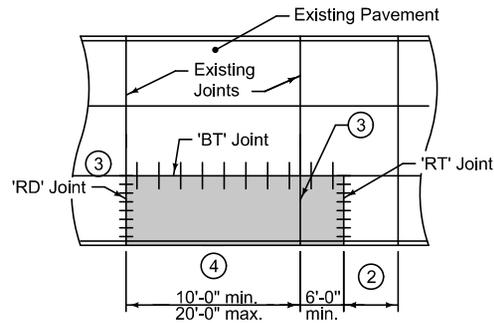


ONE PANEL WIDTH PATCH

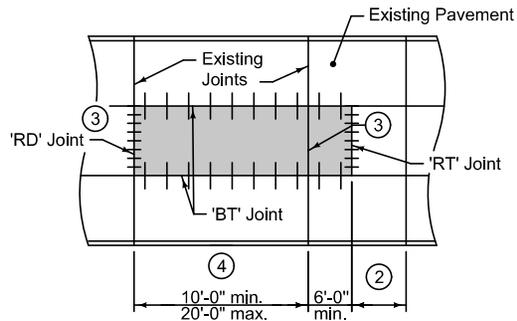


FULL ROADWAY WIDTH PATCH

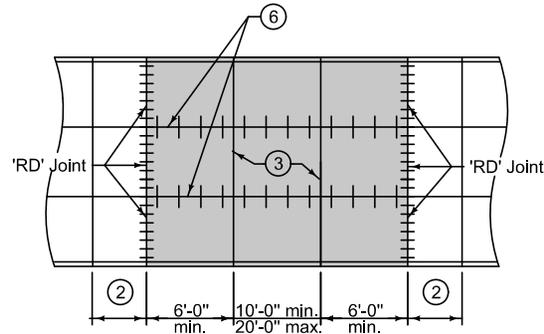
THIRD POINT JOINTING ①



OUTSIDE PANEL PATCH



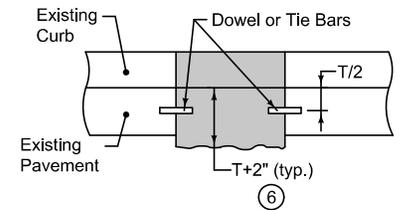
CENTER PANEL PATCH



FULL ROADWAY WIDTH PATCH

- ① Patches on roadways with quarter point jointing will be similar to third point jointing details.
- ② Minimum distance between existing joint and patch is 6 feet. If distance is less than 6 feet, extend patch to existing joint.
- ③ Match existing joint type and locations. If specified, replace existing 'C' joints with 'CD' joints.
- ④ If existing joint spacing is greater than 20 feet, add a 'CT' joint at mid-panel.
- ⑤ If subgrade or subbase material is required below patch, bring material to a level 2 inches below bottom of existing pavement.
- ⑥ BT, KT, or L joint depending on pavement thickness and pouring sequence

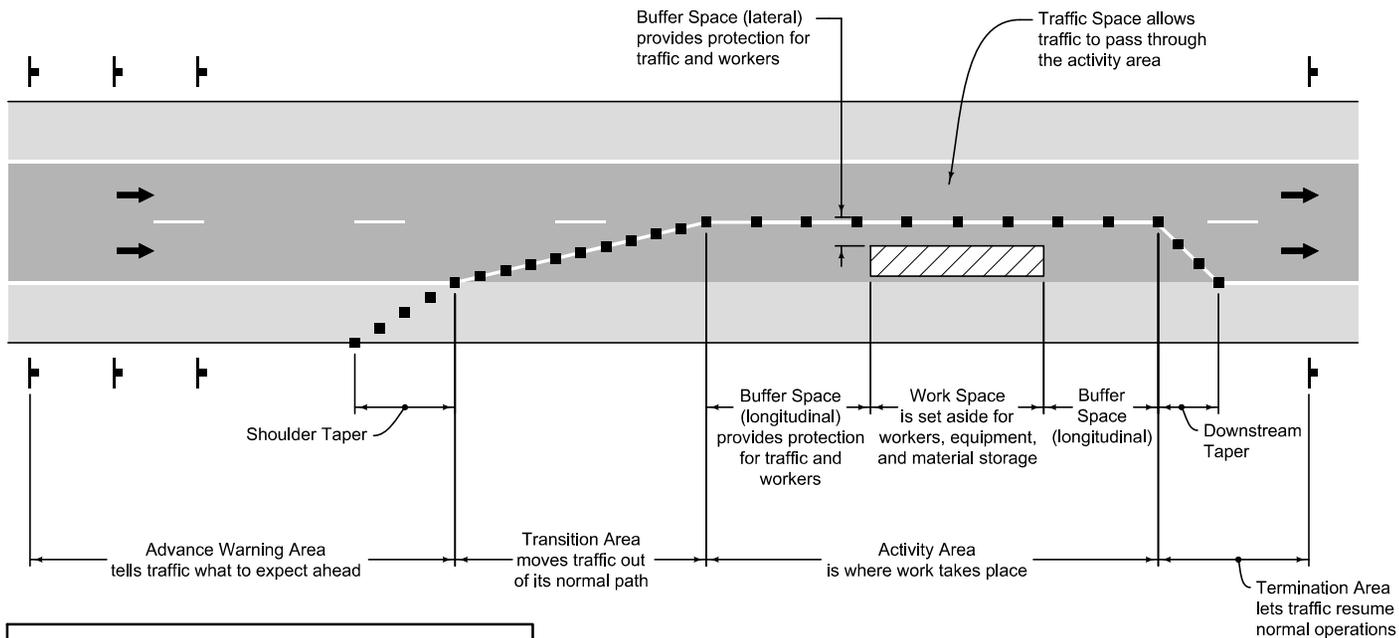
LONGITUDINAL SECTION THRU PCC PATCH



	REVISION 5 2022 Edition
	SUDAS 7040.102
	SHEET 1 of 1

SUDAS Standard Specifications

**FULL DEPTH PATCHES
GREATER THAN 15' LONG**



It may be necessary to combine two or more examples to adequately address the traffic control needed.

Utilize vehicle warning lights (amber, high-intensity rotating, flashing, oscillating, or strobe light) on all shadow and work vehicles.

Vehicle hazard lights may be used to supplement warning lights. Do not use hazard lights alone.

Flags may be used to call attention to the advanced warning signs.

If a closure extends overnight, utilize channelizing devices with retroreflective sheeting.

Speed limit refers to the legally established and signed speed limit.

If an arrow board is used on 2-lane roads, operate only in the caution mode.

Adjust the position of warning signs and channelizing devices for available sight distance.

Do not install temporary traffic control devices until work is ready to begin, and remove or cover all signs and devices promptly when they are not needed.

The END WORK (G20-2) signs shown on all figures are optional.

Key*

- Arrow Board
- Arrow Board Support or Trailer
- Channelizing Device
- Direction of Traffic
- Drum
- Flagger
- Pedestrian Channelizing Device
- Safety Fence
- Shadow Vehicle
- Sign (shown facing left)
- Type III Barricade
- Work Space
- Work Vehicle
- Vehicle Warning Light (amber, high-intensity rotating, flashing, oscillating, or strobe light)

*Applies to all Section 8030 figures

Distance Between Signs	
Speed Limit (mph)	A
20-25	100
30-40	250
45-50	350
55	500

Channelizing Device Spacing			
Speed Limit (mph)	Taper (ft)	Buffer (ft)	Work Space (ft)
20	20	40	40
25	25	50	50
30	30	60	60
35	35	70	70
40	40	80	80
45	45	90	90
50	50	100	100
55	55	110	110

Merging Taper Lengths for Lane Closure*		
Speed Limit (mph)	Taper Length (L) (ft)	Number of Devices
20	80	5
25	125	6
30	180	7
35	245	8
40	320	9
45	540	13
50	600	13
55	660	13

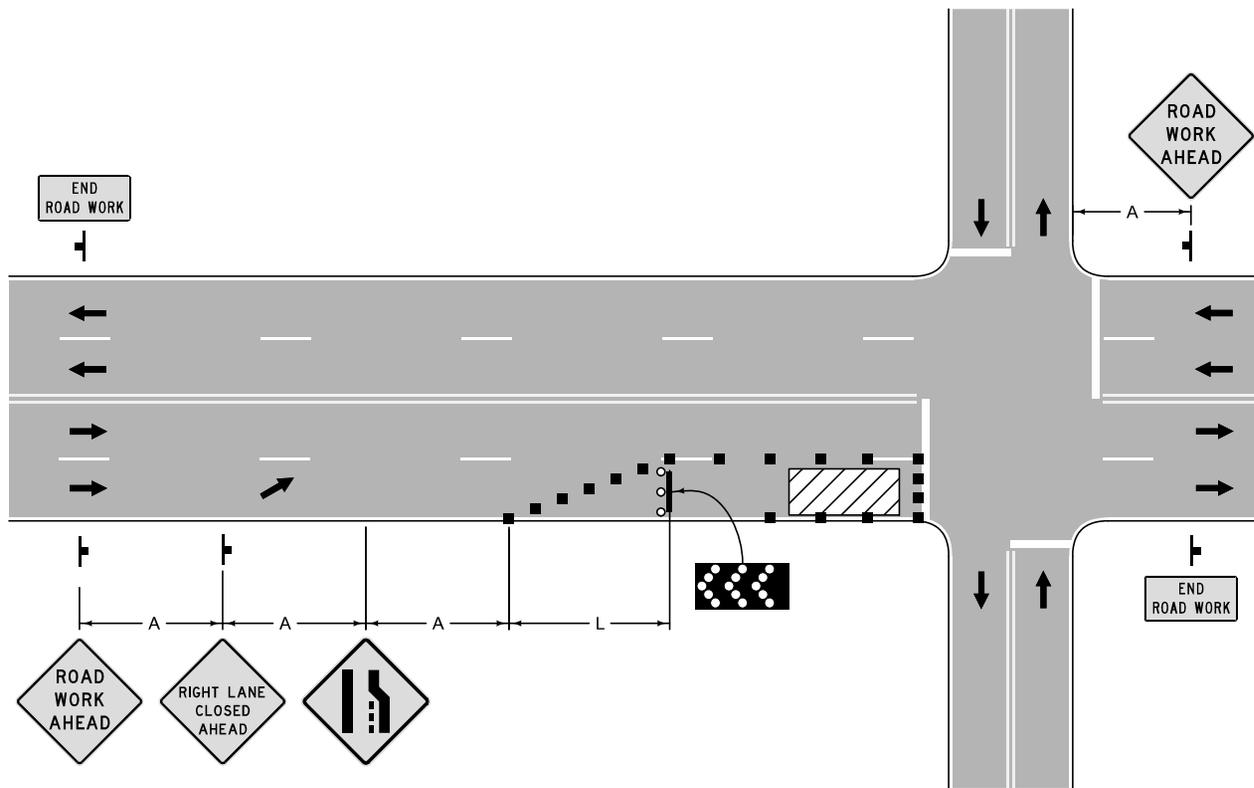
*Values shown are for a 12 foot shift. Table does not apply to one-lane, two-way (flagger) tapers

FIGURE 8030.101 SHEET 1 OF 1

REVISION	
New	10-17-17
8030.101	
SHEET 1 of 1	

SUDAS Standard Specifications

**TEMPORARY TRAFFIC CONTROL
GENERAL INFORMATION**



Place arrow board within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical, while keeping it on the paved surface.

If the work area extends across the crosswalk, the crosswalk should be closed using appropriate information and devices.

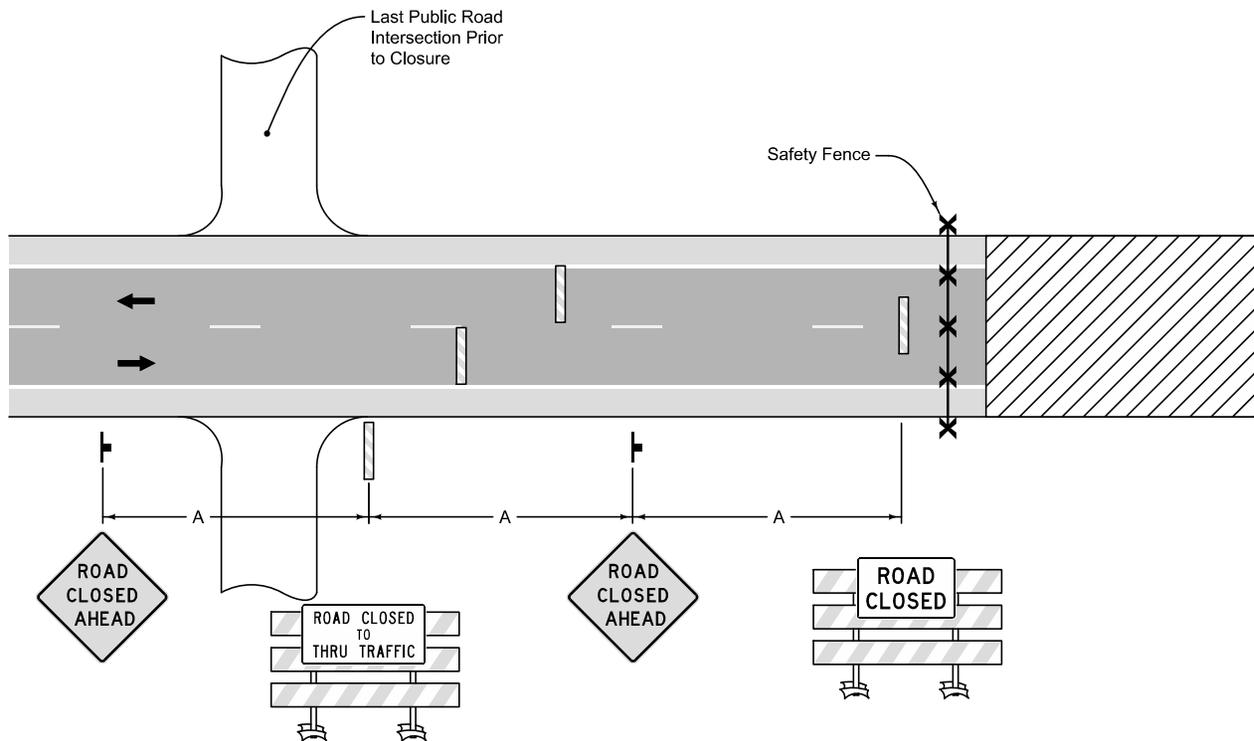
For traffic signal maintenance, consider using law enforcement and/or a shadow vehicle.

For intersection approaches reduced to a single lane, left-turning movements may be prohibited to maintain capacity for through motor vehicle traffic.

Right lane closure shown; for left lane closure, modify sign messages and arrow board.

Refer to Figure 8030.101 for symbol key and sign spacing.

	REVISION New 10-17-17
	8030.111
	SHEET 1 of 1
SUDAS Standard Specifications	
LANE CLOSURE AT AN INTERSECTION	



When distance "A" is less than 500 feet, place the barricade with the ROAD CLOSED TO THRU TRAFFIC sign in the middle of the traffic lane approaching the work area. The barricade may be omitted if the distance to the work area is less than 250 feet.

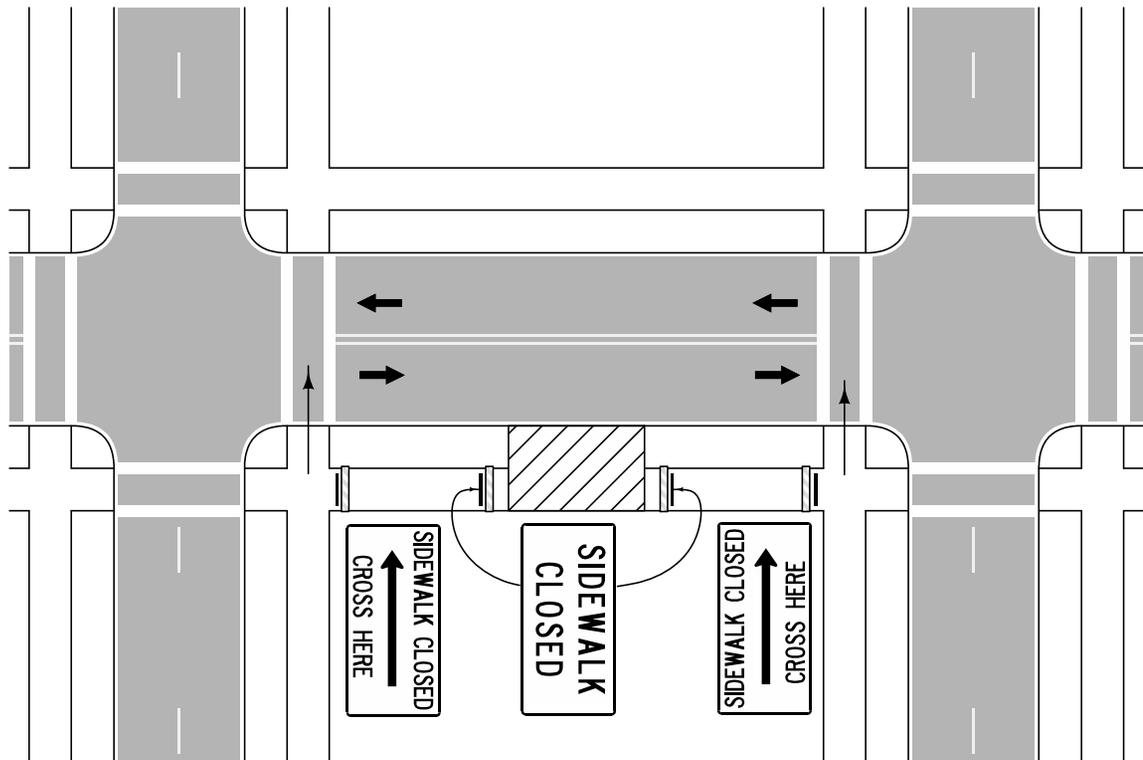
Maintain safety fence closures to prevent unauthorized vehicles from passing through.

Place staggered Type III barricades in the roadway after the last public road intersection prior to the closure.

If local traffic is allowed to pass a Type III barricade, retroreflective sheeting is required on both sides of the barricade.

Refer to Figure 8030.101 for symbol key and sign spacing.

	REVISION New 10-17-17
	SUDAS 8030.116
	SHEET 1 of 1
SUDAS Standard Specifications	
STREET OR ROAD CLOSURE	



Use when crosswalks, sidewalks, or other pedestrian facilities are closed or relocated. Ensure temporary facilities are detectable and include accessibility features consistent with the features present in the existing pedestrian facility.

Signs such as KEEP RIGHT (LEFT) may be placed to guide or direct pedestrians.

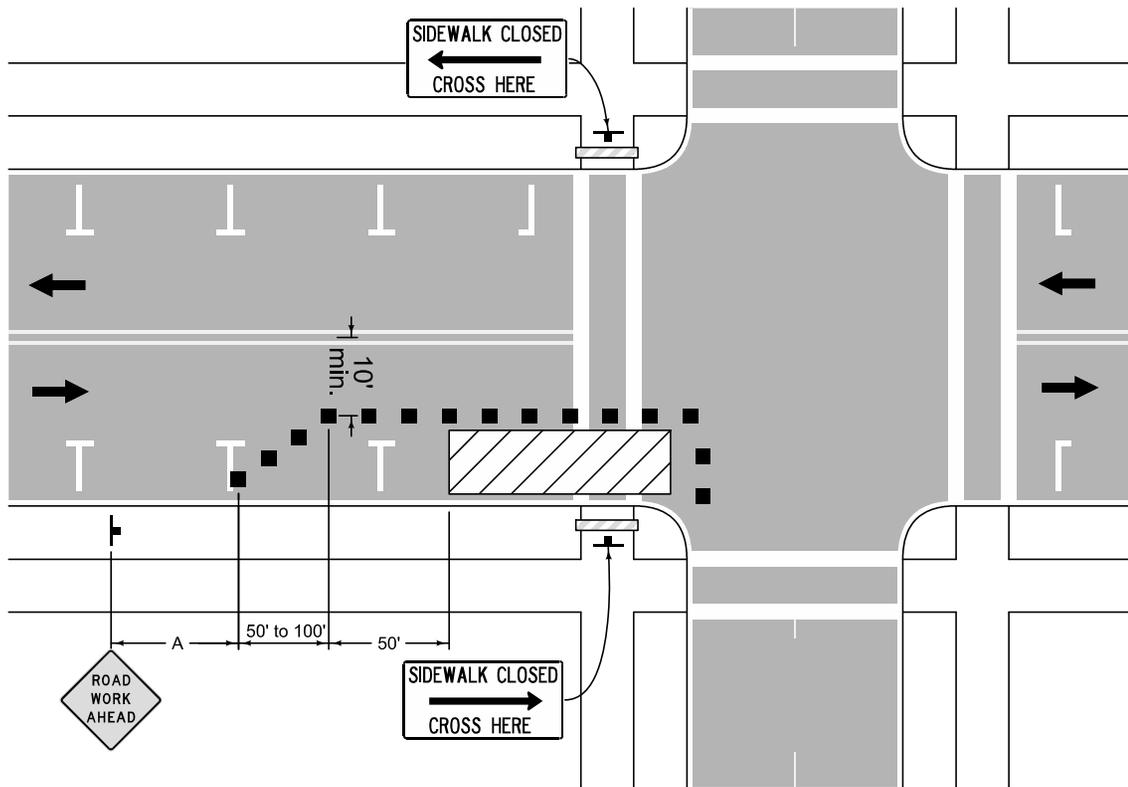
Provide continuous barriers or fencing complying with the requirements of PROWAG to secure work areas from pedestrians.

When required in the contract documents, provide auxiliary lighting or audible information devices to assist pedestrians with visual disabilities.

Only the temporary traffic control devices related to pedestrians are shown. Other devices related to control of vehicular traffic may be necessary.

Refer to Figure 8030.101 for symbol key and sign spacing.

	REVISION New 10-17-17
	8030.117
	SHEET 1 of 1
SUDAS	
SUDAS Standard Specifications	
SIDEWALK DETOUR	

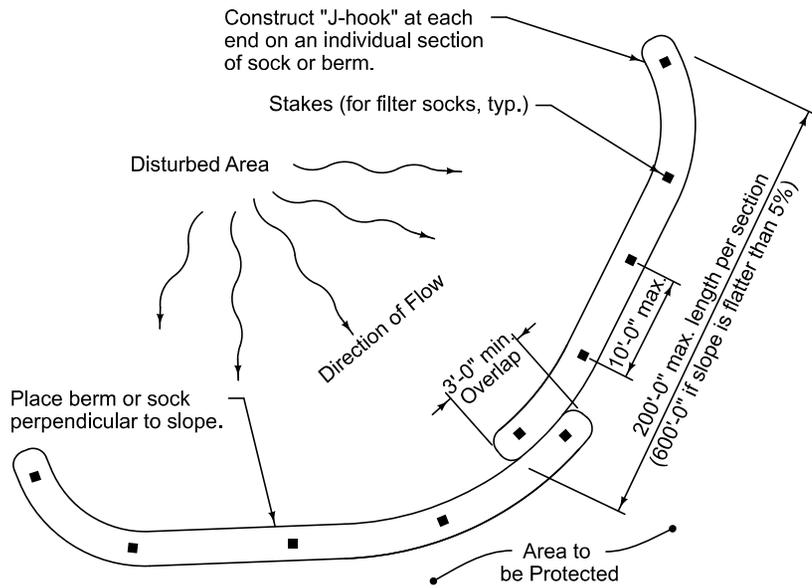


Use when work activities close crosswalk or reduce width to less than 4 feet. Ensure temporary facilities are detectable and include accessibility features consistent with the features present in the existing pedestrian facility.

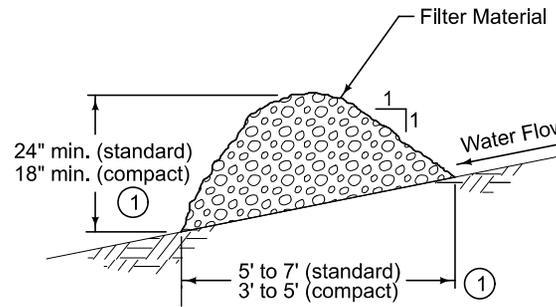
When required in the contract documents, provide auxiliary lighting or audible information devices to assist pedestrians with visual disabilities.

Refer to Figure 8030.101 for symbol key and sign spacing.

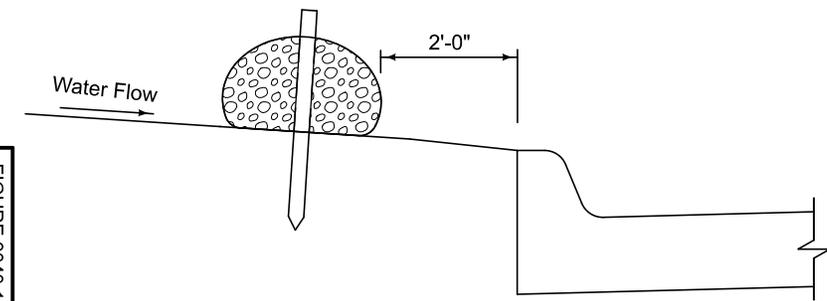
	REVISION New 10-17-17
	SUDAS 8030.119
	SHEET 1 of 1
SUDAS Standard Specifications	
CLOSURE OF MARKED OR UNMARKED CROSSWALK	



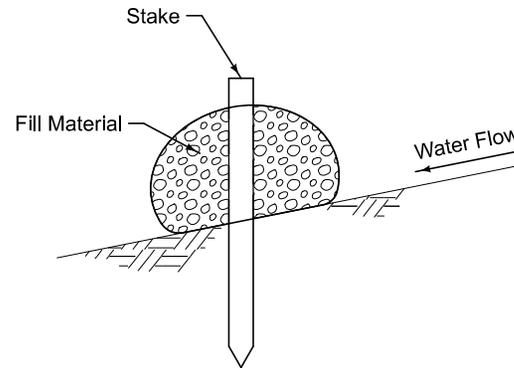
PLAN VIEW OF SLOPE
(for sediment and slope control)



FILTER BERM



SECTION VIEW AT STREET
(for perimeter control along street)



FILTER SOCK

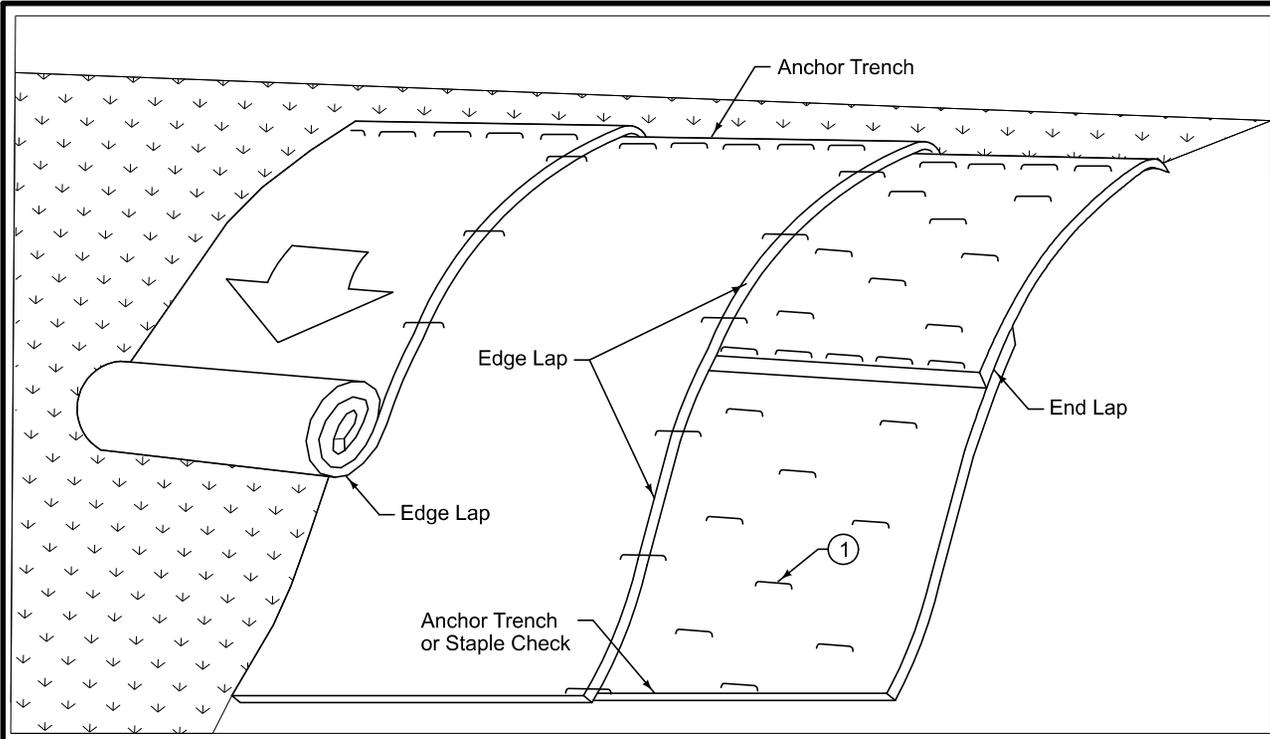
Berm shown is typical for slopes flatter than 3:1. For steeper slopes, increase berm size as directed by the Engineer.

Place berm in uncompacted windrow perpendicular to the slope at locations specified in the contract documents.

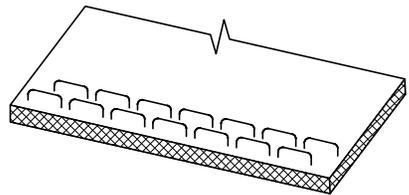
Filter sock diameter as specified in the contract documents.

① Filter berm size (standard or compact) as specified in the contract documents.

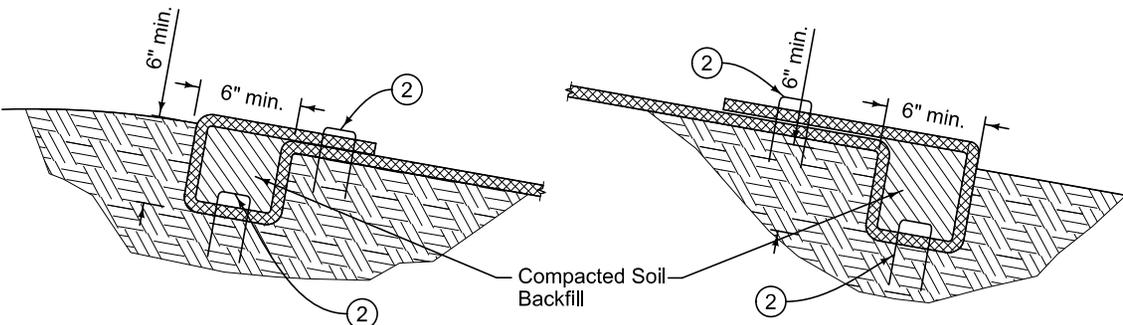
	REVISION
	5 2025 Edition
	9040.102
SHEET 1 of 1	



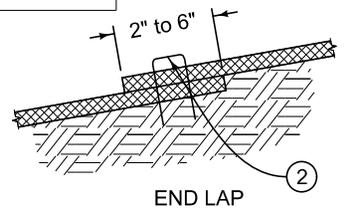
- ① Secure blanket to ground according to manufacturer's recommended anchoring pattern and anchor density (minimum 1.3 anchors per square yard).
- ② Install staples at 1 foot on center.



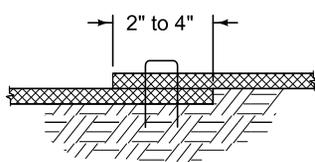
STAPLE CHECK
(Two rows of staples at 4" on center and staggered 4" apart)



UPSLOPE AND TERMINAL END ANCHOR TRENCH



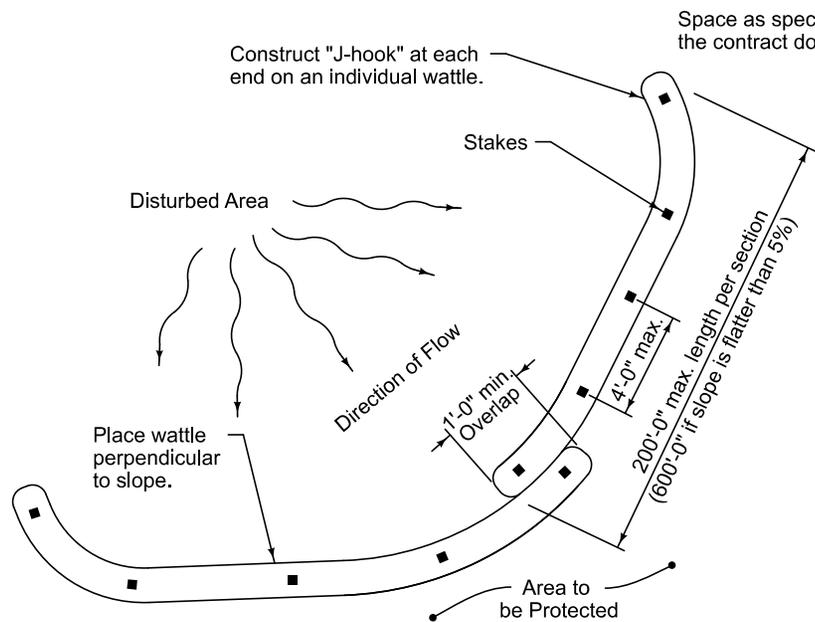
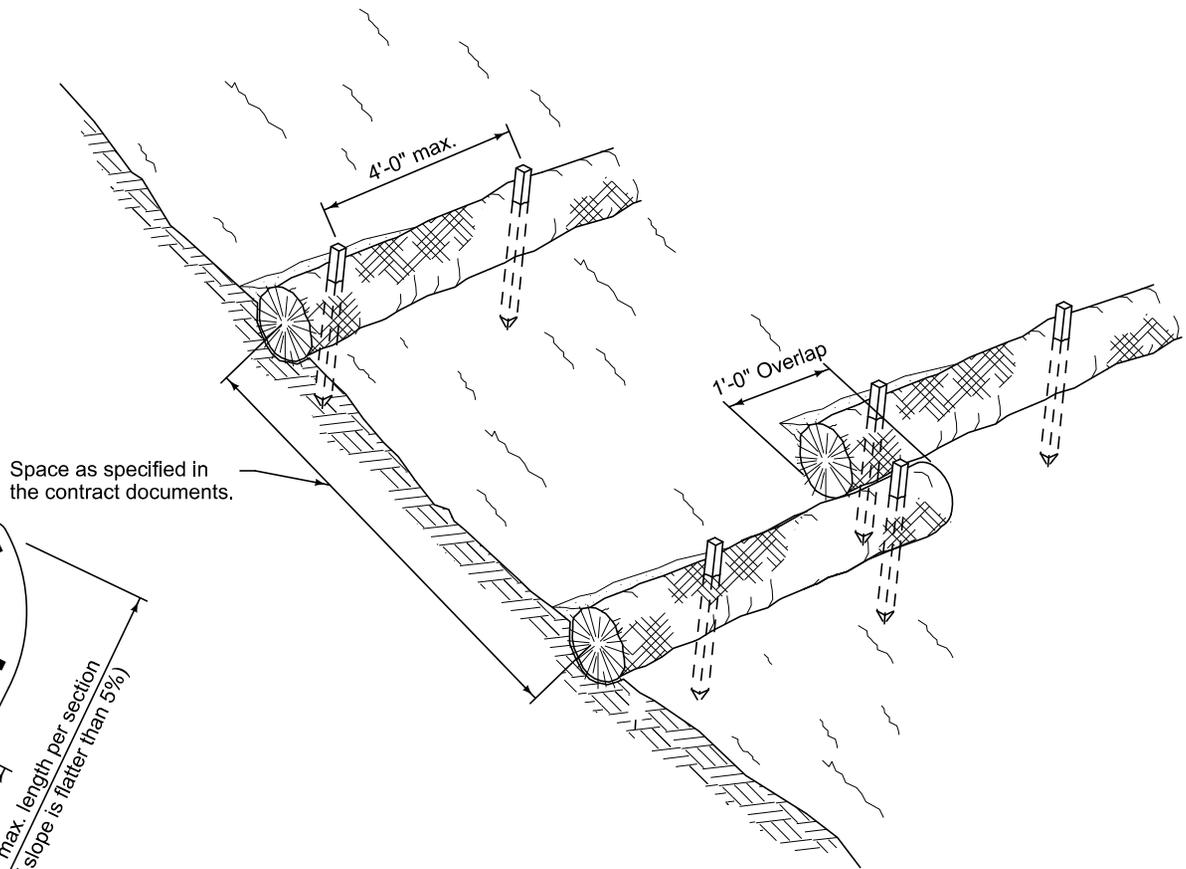
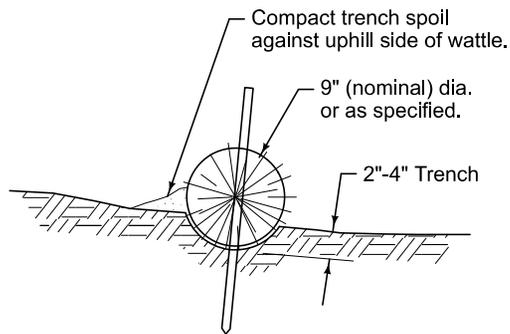
END LAP



EDGE LAP
(4'-0" min. anchor spacing)

FIGURE 9040.103 SHEET 1 OF 1

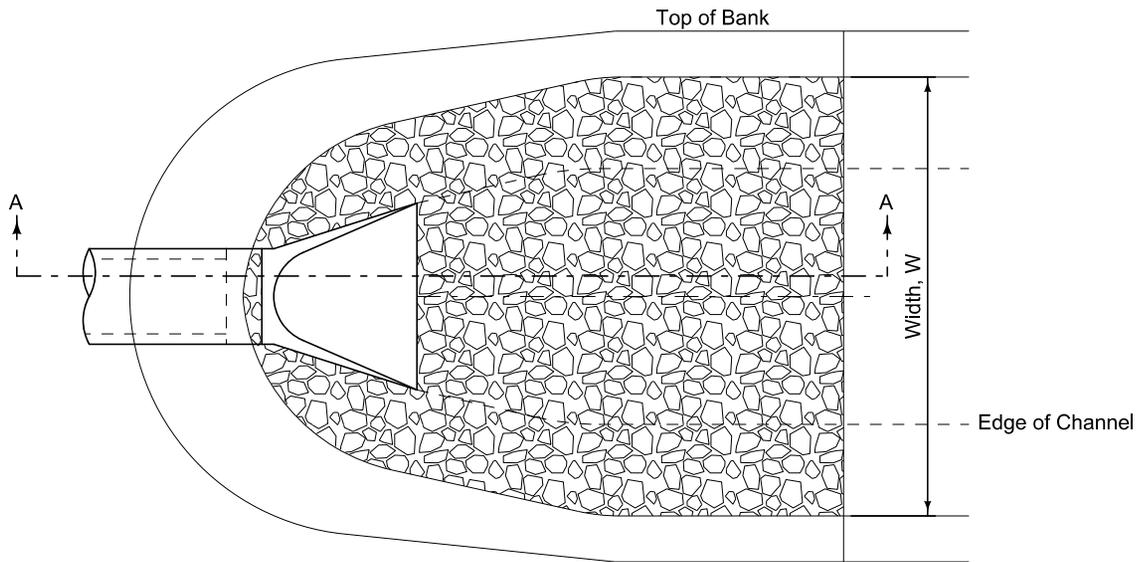
	SUDAS	<small>REVISION</small> 3 2025 Edition
	9040.103	<small>SHEET 1 of 1</small>
	SUDAS Standard Specifications	
ROLLED EROSION CONTROL PRODUCT (RECP) INSTALLATION ON SLOPES		



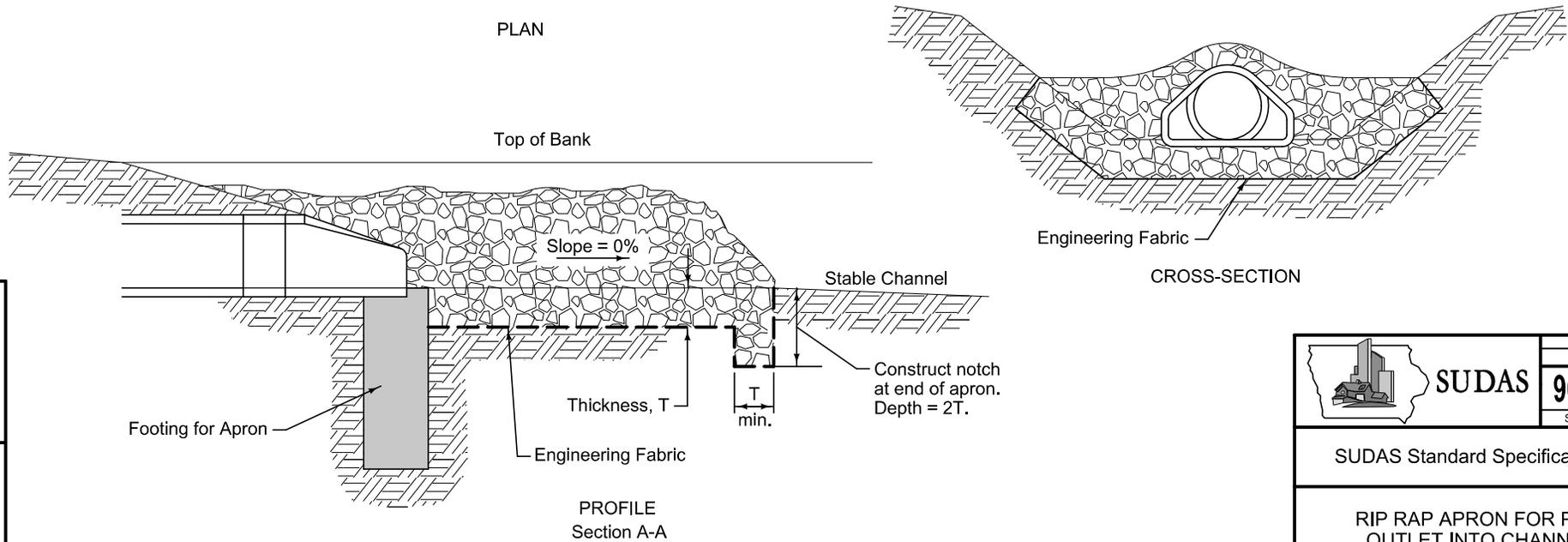
PLAN VIEW OF SLOPE
(for sediment and slope control)

FIGURE 9040.105 SHEET 1 OF 1

	REVISION 3 2025 Edition
	SUDAS 9040.105 SHEET 1 of 1
SUDAS Standard Specifications	
WATTLE	



PLAN



PROFILE
Section A-A

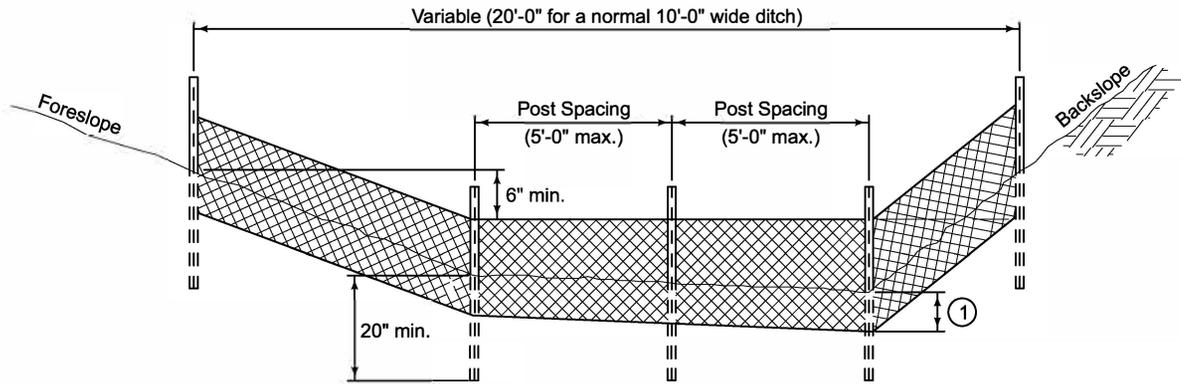
CROSS-SECTION

FIGURE 9040.111 SHEET 1 OF 1

	REVISION	
	3	10-21-14
	SUDAS 9040.111	
SHEET 1 of 1		

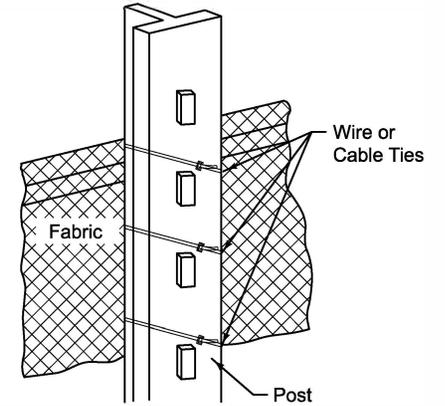
SUDAS Standard Specifications

RIP RAP APRON FOR PIPE
OUTLET INTO CHANNEL

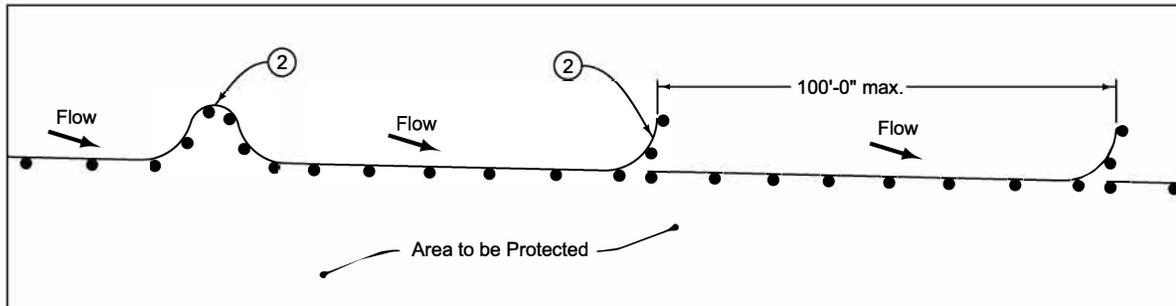


TYPICAL SILT FENCE DITCH CHECK

- ① Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).
- ② Install silt fence for perimeter control with a maximum run length of 100 feet. At the downstream end of each run, turn the silt fence up the slope for 20 feet as shown to construct a 'J-Hook' to contain runoff. At the contractor's option, the silt fence may terminate and restart at the J-hook or may be installed continuously through the J-hook.



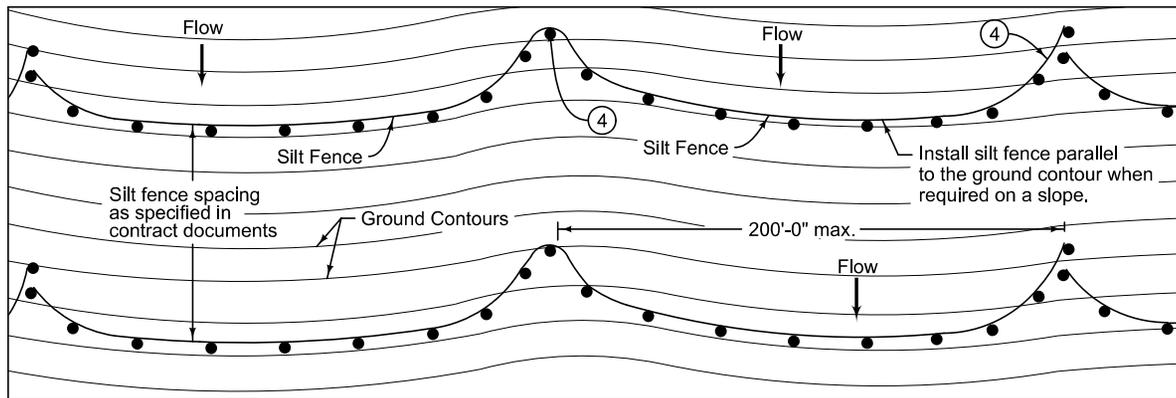
ATTACHMENT TO POST



TYPICAL SILT FENCE INSTALLATION FOR PERIMETER CONTROL

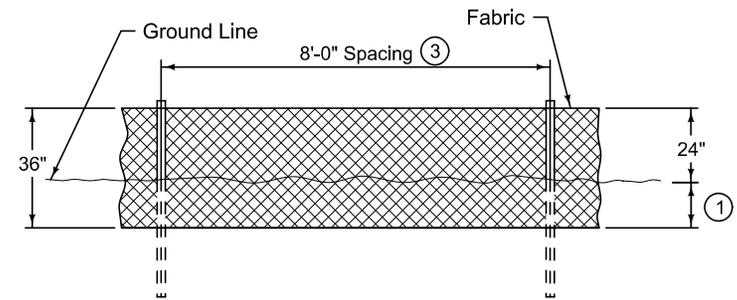
FIGURE 9040.119 SHEET 1 OF 2

	REVISION 3 2025 Edition	
	SUDAS 9040.119 SHEET 1 of 2	
SUDAS Standard Specifications		
SILT FENCE		

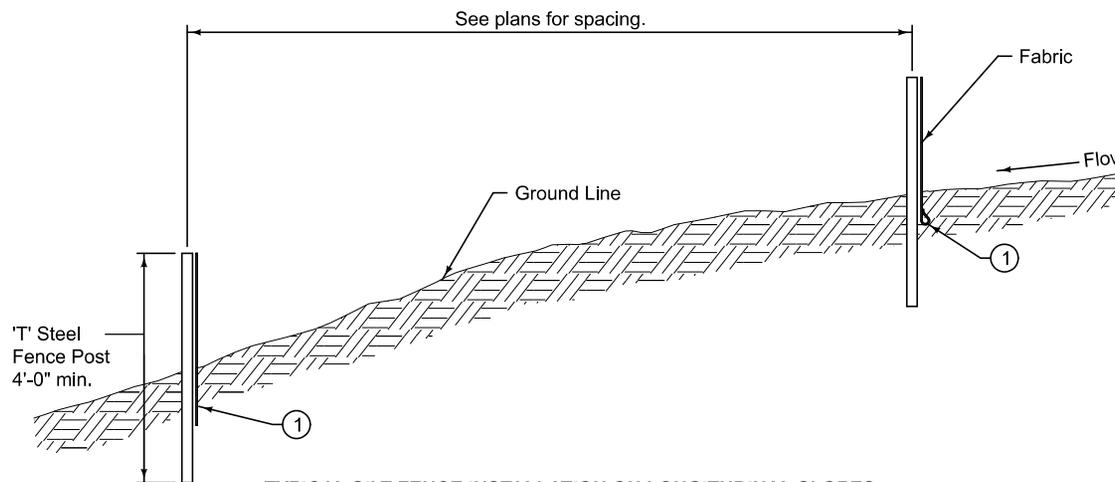


TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES
(Plan View)

- ① Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).
- ③ Reduce post spacing to 5 feet at water concentration areas, or as required to adequately support fence.
- ④ Place silt fence continuously along a constant elevation for a maximum run of 200 feet. At the end of each run, construct a 'J-Hook' to contain runoff by turning the silt fence up the slope for a length of 20 feet as shown. At the contractor's option, the silt fence may terminate and restart at the J-hook or may be installed continuously through the J-hook.



DETAILS OF SILT FENCE ON LONGITUDINAL SLOPES

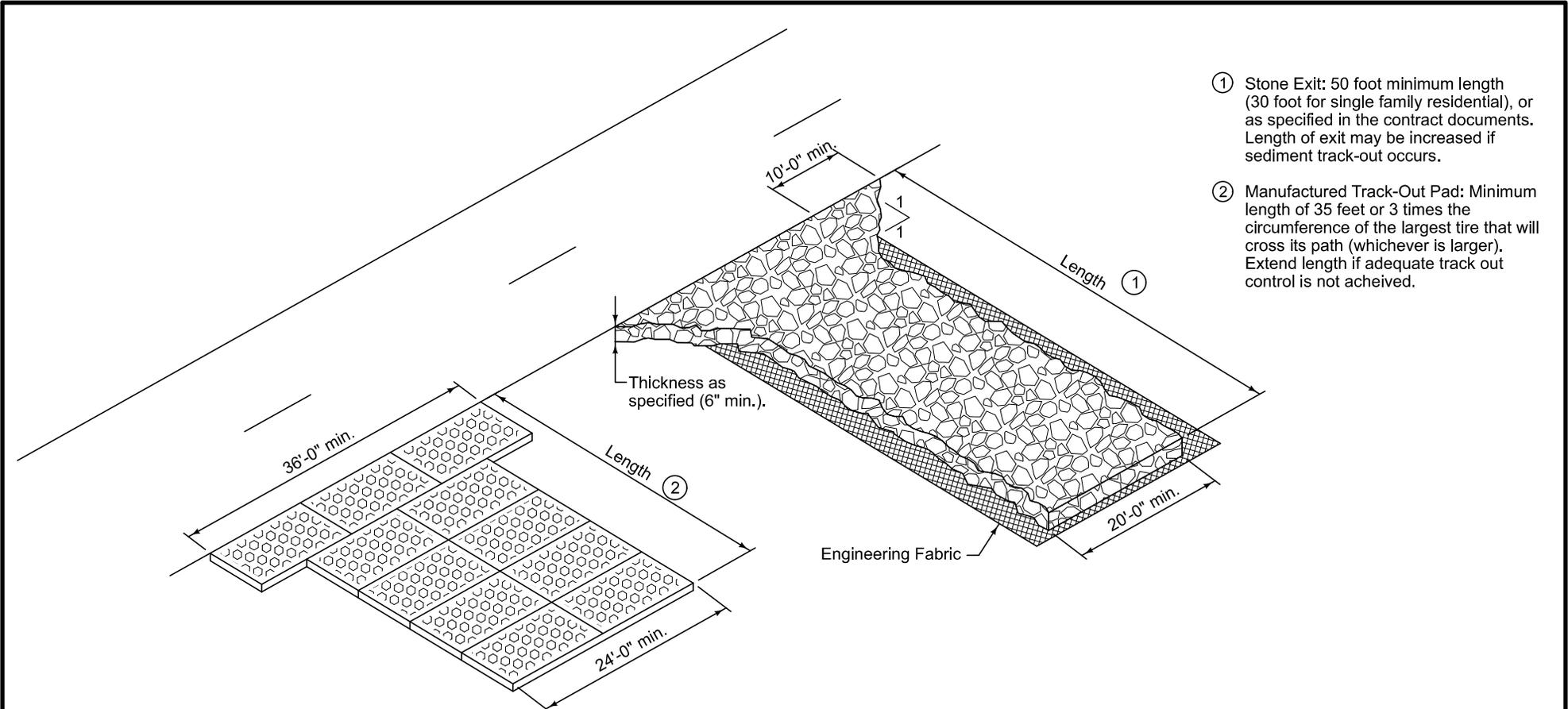


TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES
(Profile View)

	REVISION	
	3	2025 Edition
	9040.119	
SHEET 2 of 2		

SUDAS Standard Specifications

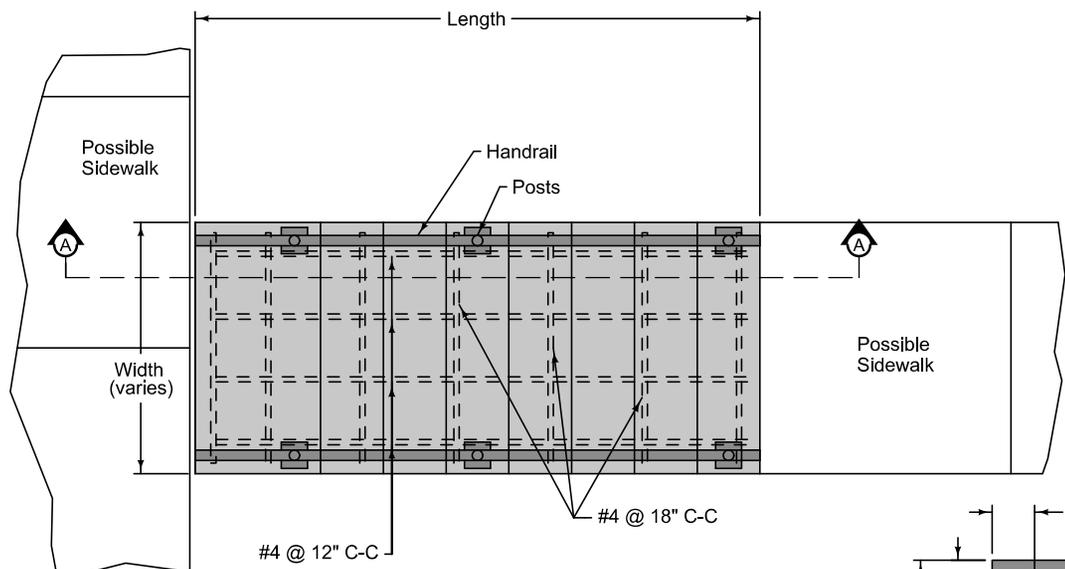
SILT FENCE



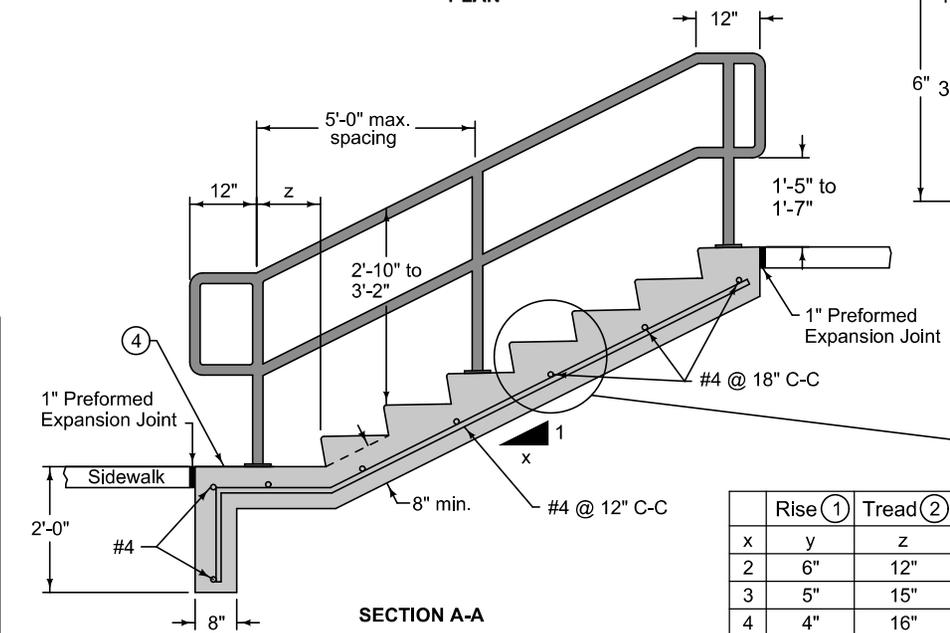
- ① Stone Exit: 50 foot minimum length (30 foot for single family residential), or as specified in the contract documents. Length of exit may be increased if sediment track-out occurs.
- ② Manufactured Track-Out Pad: Minimum length of 35 feet or 3 times the circumference of the largest tire that will cross its path (whichever is larger). Extend length if adequate track out control is not achieved.

FIGURE 9040.120 SHEET 1 OF 1

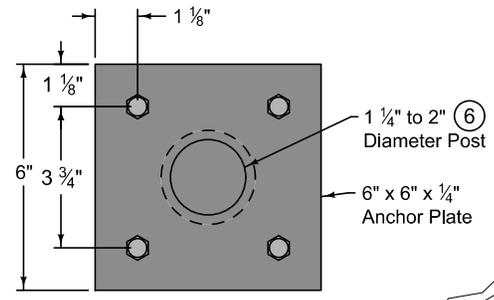
 SUDAS	REVISION
	3 2025 Edition
	9040.120
SHEET 1 of 1	
SUDAS Standard Specifications	
STABILIZED CONSTRUCTION EXIT	



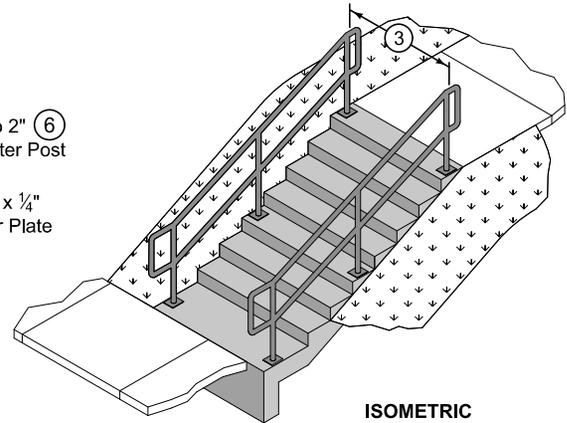
PLAN



SECTION A-A



ANCHOR PLATE DETAIL



ISOMETRIC

Provide a minimum of 2 inches of cover for all reinforcing.

Ensure all risers are an equal height and all treads are an equal depth within a flight of stairs.

- ① Minimum riser height is 4 inches. Maximum riser height is 7 inches.
- ② Minimum tread depth is 11 inches.
- ③ Match existing sidewalk width.
- ④ Construct cross slope of landing to match adjacent sidewalk.
- ⑤ Slope tread 1% minimum to 2% maximum in any direction.
- ⑥ Weld post to anchor plate with 1/4 inch weld. Grind weld to provide smooth surface, free of burrs.

	Rise ①	Tread ②
x	y	z
2	6"	12"
3	5"	15"
4	4"	16"

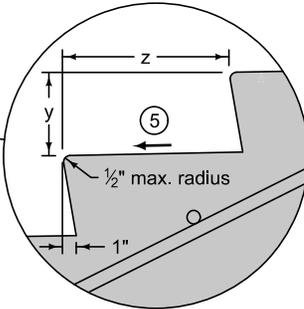
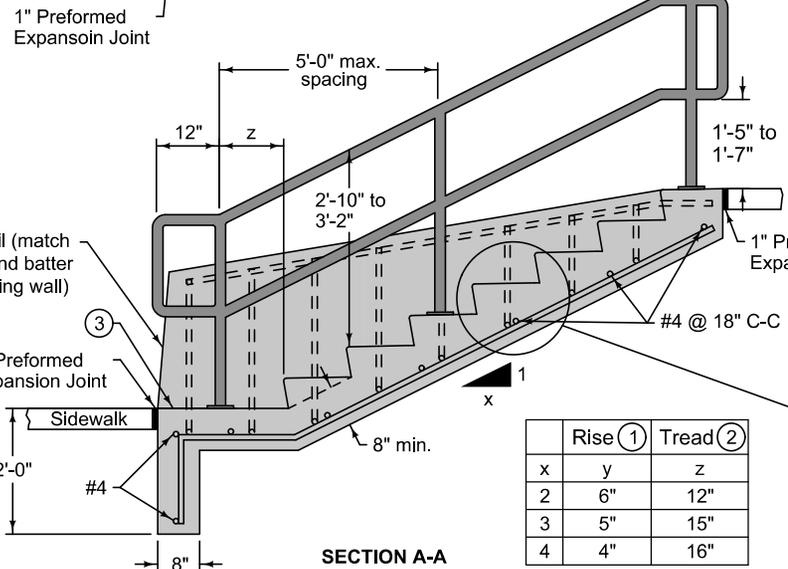
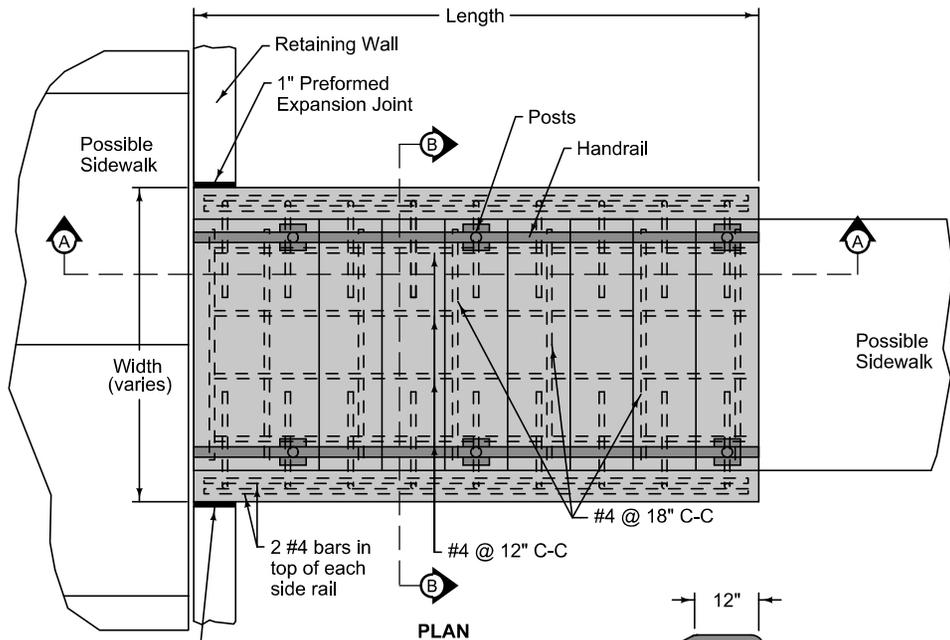


FIGURE 9080.101 SHEET 1 OF 1

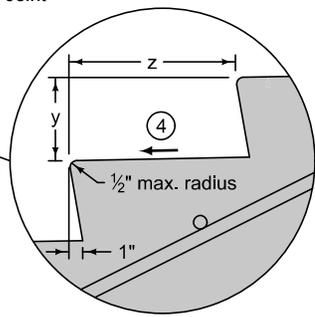
	REVISION
	2 10-16-18
	9080.101
SHEET 1 of 1	

SUDAS Standard Specifications

TYPE A CONCRETE STEPS WITH HANDRAIL



	Rise ①	Tread ②
x	y	z
2	6"	12"
3	5"	15"
4	4"	16"



Provide a minimum of 2 inches of cover for all reinforcing.

Ensure all risers are an equal height and all treads are an equal depth within a flight of stairs.

- ① Minimum riser height is 4 inches. Maximum riser height is 7 inches.
- ② Minimum tread depth is 11 inches.
- ③ Construct cross slope of landing to match adjacent sidewalk.
- ④ Slope tread 1% minimum to 2% maximum in any direction.
- ⑤ Match existing sidewalk width.

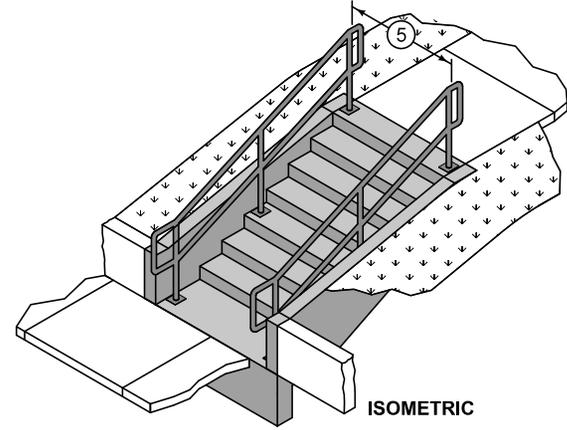
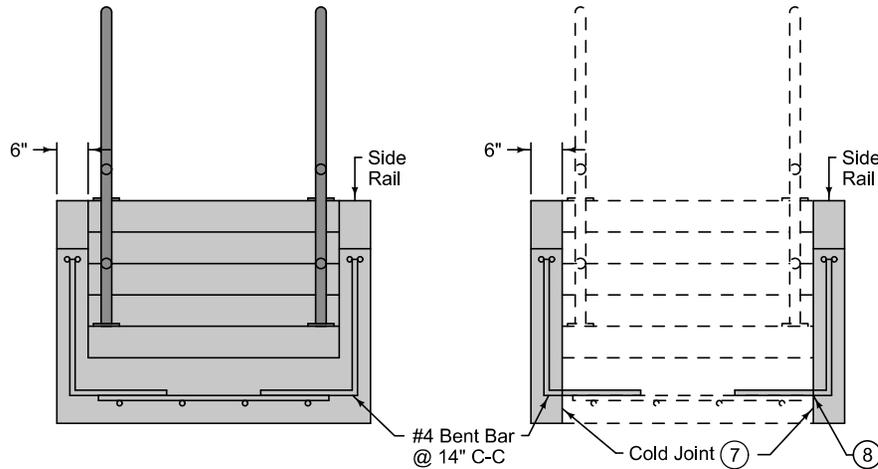


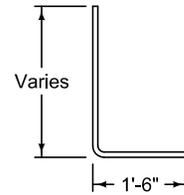
FIGURE 9080.102 SHEET 1 OF 2

	SUDAS	9080.102
	<small>REVISION</small> 1 2022 Edition <small>SHEET 1 of 2</small>	
SUDAS Standard Specifications		
TYPE B CONCRETE STEPS WITH HANDRAIL		



SECTION B-B
(Side Rails and Stairs Formed and Constructed Monolithically)

ALTERNATE SECTION B-B
(Side Rails and Stairs Formed and Constructed Separately)

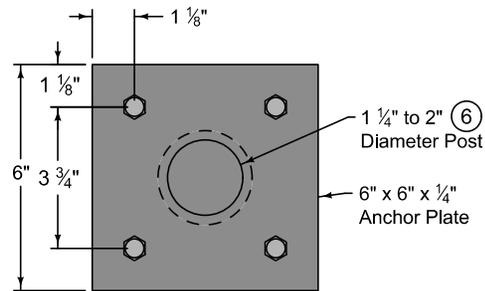


BENT BAR

Provide a minimum of 2 inches of cover for all reinforcing.

Ensure all risers are an equal height and all treads are an equal depth within a flight of stairs.

- ⑥ Weld post to anchor plate with 1/4 inch weld. Grind weld to provide smooth surface, free of burrs.
- ⑦ Upon approval of Engineer, side rails may be formed and constructed separately from the stairs. Seal the cold joint between the side rail and stairs according to Section 7010.
- ⑧ If side rails and stairs are constructed separately, dowel bar substitutes may be used for the bent bars connections between the side rails and the stairs.

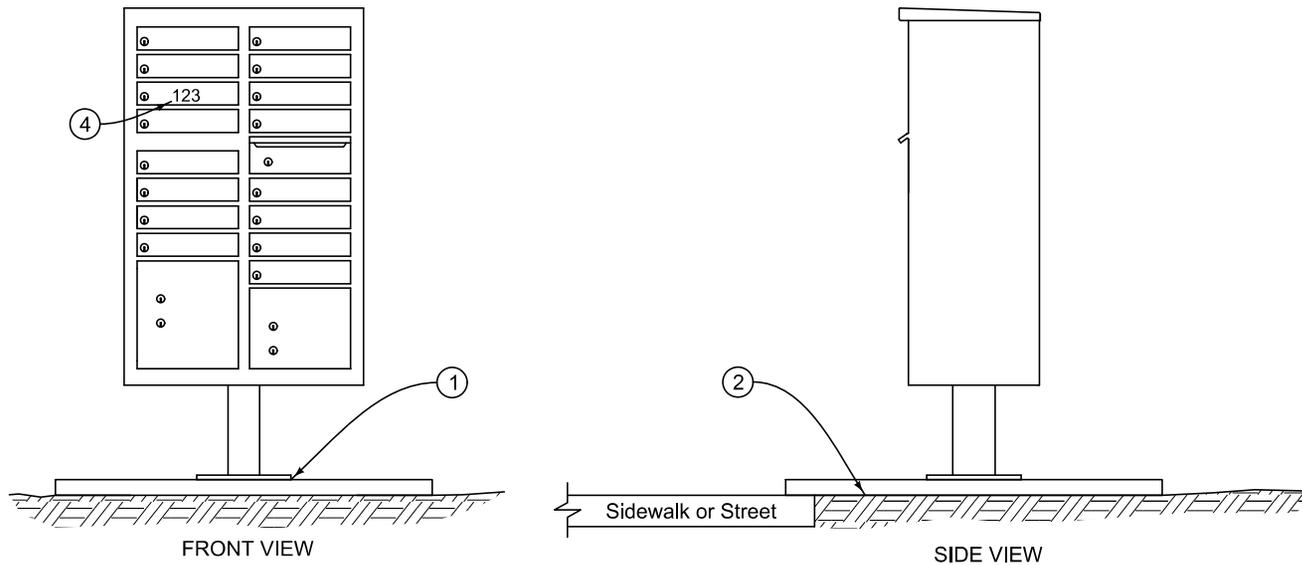


ANCHOR PLATE DETAIL

	REVISION	
	1	2022 Edition
	9080.102	
SHEET 2 of 2		

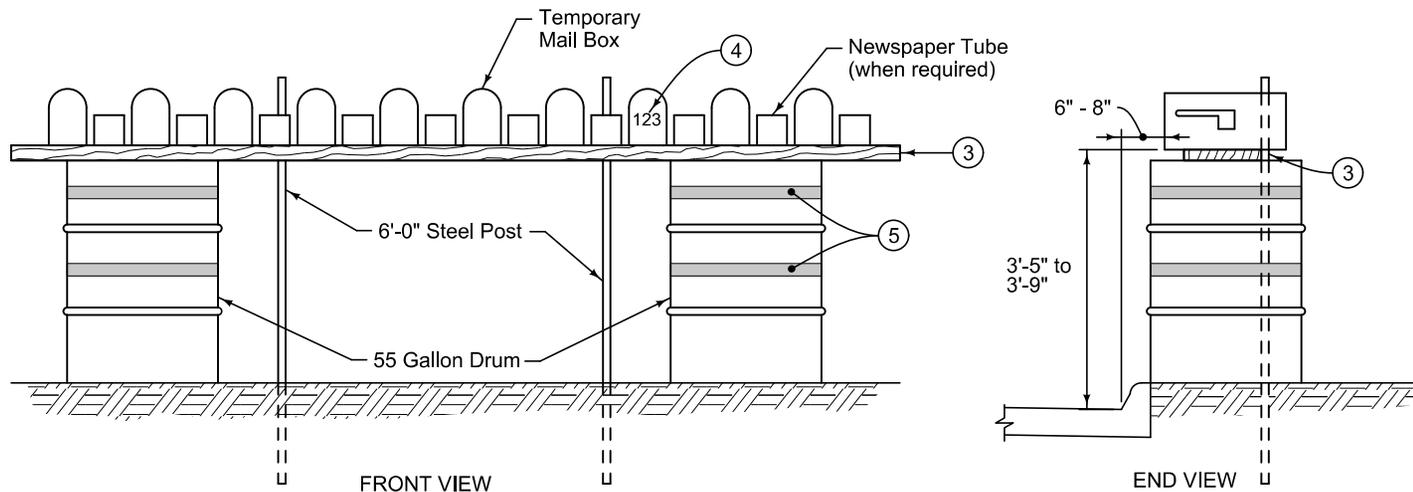
SUDAS Standard Specifications

**TYPE B CONCRETE STEPS
WITH HANDRAIL**



TEMPORARY CLUSTER BOX UNIT

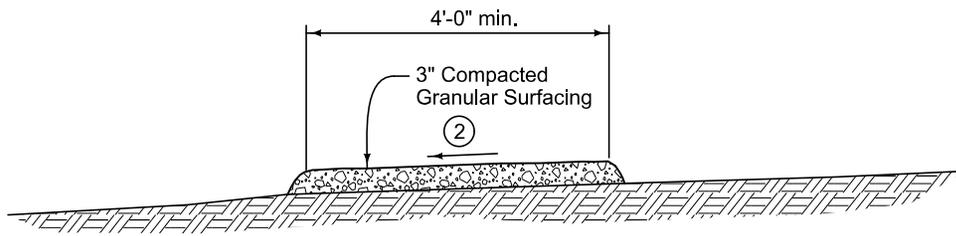
- ① Attach cluster box unit to a stable skid or anchor plate.
- ② Set cluster box on firm and level ground adjacent to sidewalk or street paving. Provide anchorage as needed to prevent overturning.
- ③ Provide a 2 inch x 12 inch plank with length as required. Firmly attach mailboxes and newspaper tubes to plank. Secure plank to steel posts for lateral support.
- ④ Label each mailbox with property address.
- ⑤ Attach two bands of 2 inch wide reflectorized tape to each barrel.



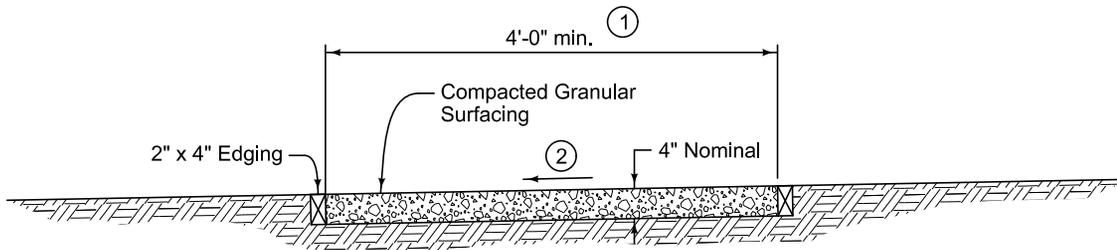
TEMPORARY GROUP MAILBOX

FIGURE 11030.101 SHEET 1 OF 1

	REVISION 1 10-18-16
	SUDAS 11030.101 SHEET 1 of 1
SUDAS Standard Specifications	
TEMPORARY MAILBOXES	



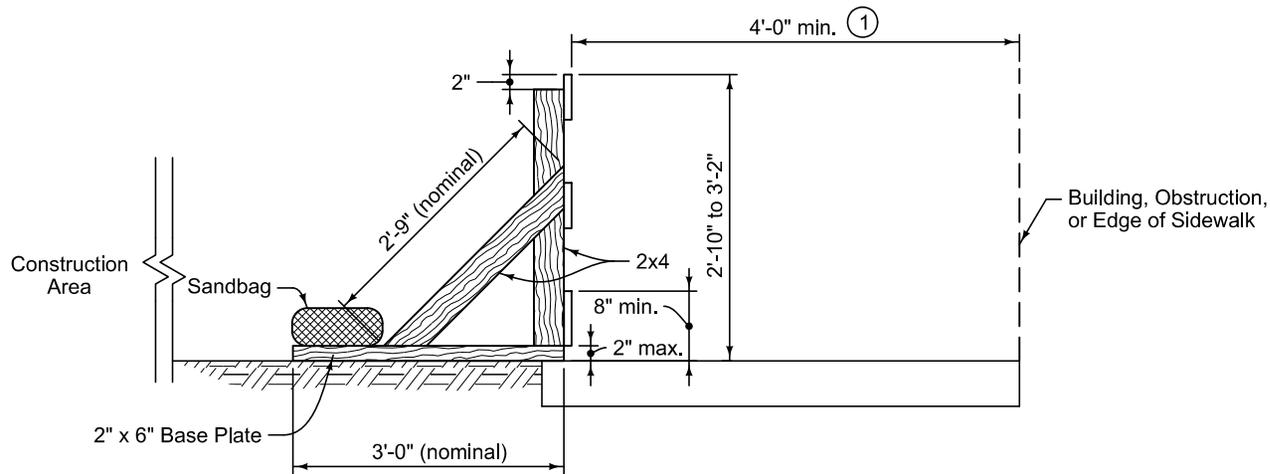
TEMPORARY RESIDENTIAL ACCESS



TEMPORARY GRANULAR SIDEWALK

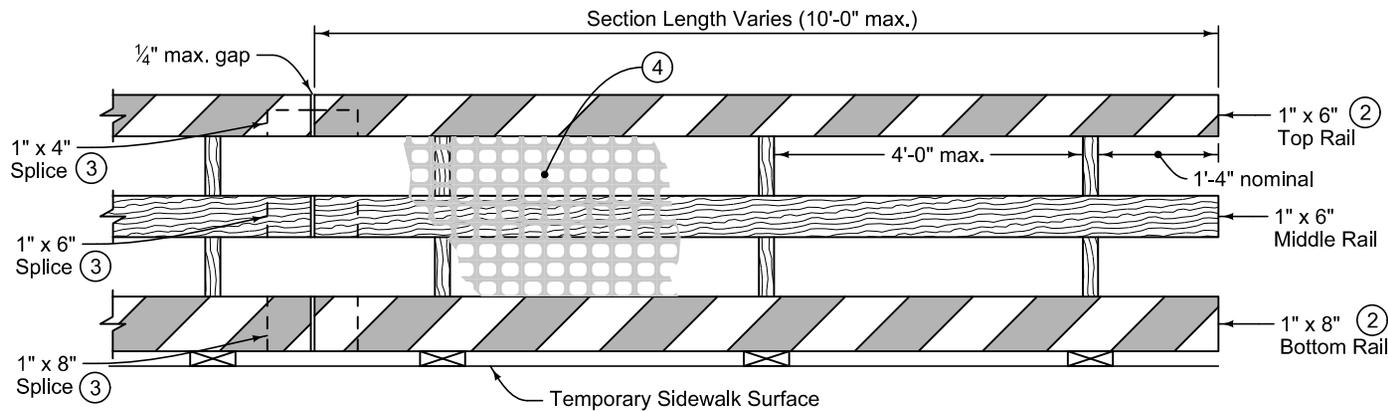
- ① If sidewalk width is less than 5 feet, provide 5 foot long by 5 foot wide passing spaces at 200 foot intervals.
- ② Target cross slope of 1.5% with a maximum cross slope of 2%.

	REVISION		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">1</td> <td style="width: 50%; text-align: center;">10-18-16</td> </tr> </table>	1	10-18-16
	1	10-18-16	
SUDAS 11040.101			
SHEET 1 of 1			
SUDAS Standard Specifications			
TEMPORARY GRANULAR SIDEWALK AND TEMPORARY RESIDENTIAL ACCESS			



END VIEW

- ① If sidewalk width is less than 5 feet, provide 5 foot long by 5 foot wide passing spaces at 200 foot intervals.
- ② Provide non-reflective orange and white sheeting on top and bottom rails.
- ③ Attach 12 inch long splice boards on the back side of rails at joints between sections.
- ④ When specified in the contract documents, install orange construction safety fence between the top of the bottom rail and the bottom of the top rail.



FRONT VIEW

	<small>REVISION</small> 1 10-18-16
	SUDAS 11040.102
	<small>SHEET 1 of 1</small>
SUDAS Standard Specifications	
TEMPORARY PEDESTRIAN CHANNELIZING DEVICE	

MUSCATINE POWER AND WATER

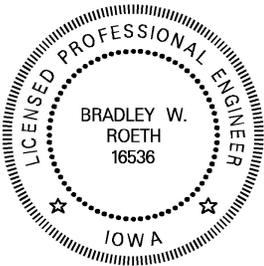
STANDARD SPECIFICATIONS

FOR

WATER DISTRIBUTION SYSTEM IMPROVEMENTS

Board of Water, Electric, and Communications Trustees
of the City of Muscatine, Iowa

2023

	<p>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.</p>
	<p><u>Bradley W. Roeth</u> 11/29/2023 Bradley W. Roeth Date License Number: <u>16536</u> My license renewal date is December 31, 2024 Pages or sheets covered by this seal: <u>Specification</u></p>

MUSCATINE POWER AND WATER
3205 CEDAR STREET
MUSCATINE, IA 52761
NOVEMBER 2023

TABLE OF CONTENTS

1.1	GENERAL REQUIREMENTS	1
1.2	DESIGN STANDARDS	1
1.3	PERMITS	2
1.4	CODES AND STANDARDS	2
1.5	MATERIALS.....	3
1.6	SUBMITTALS.....	9
1.7	TRAFFIC CONTROL.....	10
1.8	INSPECTION AND TESTING.....	10
1.9	LOCATING BURIED UTILITIES.....	13
1.10	PROTECTION OF EXISTING FACILITIES.....	13
1.11	WORK BY MPW AND COORDINATION WITH MPW	14
1.12	TRENCH EXCAVATION	14
1.13	BACKFILL AND COMPACTION.....	16
1.14	PIPE AND MATERIAL HANDLING AND STORAGE	16
1.15	PIPE INSTALLATION	17
1.16	TRACER WIRE INSTALLATION.....	20
1.17	HORIZONTAL AND VERTICAL SEPARATIONS.....	20
1.18	CONNECTIONS TO EXISTING WATER MAINS	23
1.19	GATE VALVES AND FITTINGS.....	23
1.20	TAPPING VALVES AND SLEEVES	24
1.21	FIRE HYDRANTS.....	24
1.22	THRUST RESTRAINT/BLOCKING	24
1.23	SURFACE RESTORATION.....	26
1.24	CLEAN UP	26
	ATTACHMENTS.....	26

1.1 GENERAL REQUIREMENTS

- A. Standard Specification covers construction, connections to, and repairs made on Muscatine Power and Water's (MPW) water distribution system.
- B. Standard Specification is intended to cover installations by both MPW in-house personnel and outside contractors and serve as a guide for design of water main improvements for MPW's water system.
- C. Questions regarding interpretation or changes to the Standard Specifications should be directed to Manager, Water and Utility Services or MPW's Project Leader at Muscatine Power and Water, 3205 Cedar Street, Muscatine, Iowa 52761.
- D. Standard Specification is on file at the offices of the Iowa Department of Natural Resources (IDNR) in Des Moines, Iowa.
- E. Any exceptions or modifications to Standard Specifications for specific projects shall be made in writing. Should these specifications contained herein conflict with SUDAS, then this specification shall be the prevailing standard/specification.
- F. Unforeseen circumstances or conditions encountered during construction must be reported to MPW Manager, Water and Utility Services or MPW's Project Leader immediately.
- G. No water main extensions or services tapped from MPW owned facilities will be permitted without prior approval by MPW.

1.2 DESIGN STANDARDS

- A. Fire Protection: Water distribution system shall be designed in accordance with the grading schedule for Municipal Fire Protection recommended fire flows by the Insurance Service Offices and 10 States Standards. Fire protection shall be as shown on Insurance Services Office Table 5 (see Table 1 below).

Table 1. Insurance Services Office Table 5

Location or Type	Domestic Flow	Fire
Residential:		
1. Single Family-Detached	100 gpcd	1,500 gpm
2. Single Family-Attached (Townhome)-with approved firewall	100 gpcd	2,000 gpm
3. Multifamily	100 gpcd	3,000 gpm
Office	50 gpcd	3,000 gpm
Commercial	60 gal/ emp/shift	6,000 gpm
Industrial	75 gal/ person/shift	6,000 gpm

Flow shall be calculated using a "C" factor of 100, ignoring fittings, and with a minimum residual pressure of twenty (20) psi.

B. Hydrant Location: Hydrants shall be spaced not more than 400 feet apart in single family residential districts and no more than 300 feet or about one city block apart in other districts. Spacing may vary slightly to allow placement of fire hydrants on extensions of property lines.

C. Valve Spacing: Valves shall be installed so that not over 800 feet of water main, with services, will be shut off at any time. Transmission mains with no services shall have valves located so that not over 1200 feet of main will be shut off at any time.

D. Bury Depth: All waterlines shall be buried with a 5'-0" bury depth to the top of pipe unless otherwise designed and approved by MPW. Where conflicts occur with other utilities not identified on the plans Contractor shall obtain approval from MPW for recommended bury depth.

1.3 PERMITS

A. Plans for water main extensions or modifications prepared by engineering personnel other than MPW's shall be submitted to MPW for design review, approval, and IDNR permitting before the work is bid.

B. Permits for utilizing or crossing IDOT, County, Railroad, and other utilities' right of way/easements will be acquired by MPW unless otherwise noted in the Water Main Extension Agreement or the Detailed Specifications for the Project.

C. Contractor shall obtain Street Excavation Permits and Street Closure Permits from the City of Muscatine's Building and Zoning Department at Muscatine's City Hall located at 215 Sycamore Street, Muscatine, Iowa 52761.

D. Storm water permitting will be acquired by contractor unless otherwise noted in the Water Main Extension Agreement or the Detailed Specifications for the Project. Costs of compliance with requirements of storm water permit will be handled by contractor unless otherwise outlined in the Water Main Extension Agreement or in the Detailed Specifications for the Project.

1.4 CODES AND STANDARDS

A. In the event of a conflict between codes and standards, the one establishing the more stringent requirements shall be followed (10 States, AWWA, or SUDAS (current year)).

B. The following standards and specifications are used in or referred to in this Standard Specification:

1. American Water Works Association (AWWA).
2. 10 States Standards (above all for fire flow and design).

3. SUDAS (current year)
4. Occupational Safety and Health Act of 1970, as amended (OSHA).
5. American National Standards Institute (ANSI).
6. Iowa Department of Health.
7. Iowa Department of Transportation (IDOT).
8. Iowa Department of Natural Resources (IDNR).
9. American Society for Testing and Materials (ASTM).
10. City of Muscatine, Iowa, Codes and Standards.
11. Muscatine Power and Water's rules and regulations as outlined in WATER CUSTOMER SERVICE HANDBOOK.
12. Muscatine Power and Water's current "Backflow Prevention Policy".
13. Steel Structures Painting Council (SSPC).

C. The most current versions or updates of the above specifications are to be used unless otherwise noted in the Detailed Specifications for the Project.

D. Copies of all codes and standards referenced in these Standard Specifications are on file for review at the offices of Muscatine Power and Water, 3205 Cedar Street, Muscatine, Iowa 52761.

1.5 MATERIALS

A. Pipe Types: Pipe, joints and couplings (as applicable) shall be legibly and permanently marked with critical information including: nominal pipe size, pressure class, dimensions ratio, applicable conformance standards (e.g. ANSI / AWWA / ASTM), manufacturer's name, production record code, seal or mark of testing agency verifying suitability of pipe material for potable water service and for use in fire protection systems (e.g. UL / FM / NSF, as applicable).

All water main distribution pipe shall be 6 inches in diameter or larger. Where the distribution system is significantly looped then 6-inch diameter pipe is the minimum standard in residential areas. For dead end water mains 8-inch diameter is the minimum acceptable pipe diameter in residential areas. Where fire flows larger than 1,500 gpm then larger pipe diameter will be required and shall be specified on the plans.

1. Ductile iron water main pipe (DIP). DIP pipe shall be used for all pipes larger than 12 inches in diameter unless alternate materials are shown on the Drawings. DIP pipe may be used for pipe 12-inches in diameter and smaller. DIP shall conform to ANSI/AWWA C151/A21.51. Pipe shall be cement-mortar lined in accordance with ANSI/AWWA C104/A21.4.53. Thickness design of pipe shall conform to ANSI/AWWA C150/A21.51. Pipe shall be manufactured with a bituminous coal tar base exterior coating system not less than 1 mil thick in accordance with AWWA C-151/ANSI A-21.4.

Nitrile gaskets shall be provided for water main construction unless noted and approved by MPW. No exceptions are allowed where it is determined that hydrocarbon contamination is present.

All pipe and pipe joints shall be push-on, restrained or mechanical as required by the design and shall conform to ANSI/AWWA C111/A21.11 unless otherwise designed and approved by MPW. Pipe shall be minimum Class 52 unless specified otherwise on the Plans or in the Detailed Specifications for the Project.

2. Polyvinyl Chloride Pipe (PVC): PVC may be used for all pipe 12-inches in diameter and smaller, in accordance with the Project Documents. All pipe shall be manufactured in accordance with AWWA C900. Pipe joints shall be bell-and-spigot, push-on type with integral elastomeric gasket, in conformance with ASTM D3139 and ASTM F477. Pipe minimum wall thickness shall be DR18.

Pipe shall be homogeneous throughout and free of visible cracks, holes, foreign material blisters, and other visible deleterious faults. Pipe shall be manufactured from rigid polyvinyl chloride compound with cell classification 12454-B as defined in ASTM D-1784. Normal laying length is 20 feet.

PVC pipe shall not be permitted in identified LUST sites where possible hydrocarbon contamination may occur.

3. Restrained Joint Polyvinyl Chloride Pipe (RJ-PVC). RJ-PVC may be used for pipe 12-inches in diameter and smaller, in accordance with the Project Documents and as approved by the Engineer. All pipe shall be manufactured in accordance with AWWA C900. Pipe joints shall be non-metallic mechanically restrained elastomeric bell-and-spigot joints of either coupled or integral bell type in conformance with ASTM F-477 and AWWA C-900. Pipe minimum wall thickness shall be DR18.

Pipe shall be homogeneous throughout and free of visible cracks, holes, foreign material blisters, and other visible deleterious faults. Pipe shall be manufactured from rigid polyvinyl chloride compound with cell classification 12454-B as defined in ASTM D-1784. Normal laying length is 20 feet.

RJ-PVC pipe shall not be permitted in identified LUST sites where possible hydrocarbon contamination may occur.

4. High Density Polyethylene water main pipe (HDPE): High density polyethylene (HDPE) pipe and fittings shall conform to ANSI/AWWA C906-15. Any deviations in material or workmanship including fusing shall be rejected if it does not conform with C906-15.

HDPE pipe shall be ductile iron pipe size with black with two blue stripes. Wall thickness shall be DR11 unless specified differently on the plans. HDPE pipe will be permitted on a case-by-case basis to be approved by MPW. HDPE shall not be permitted in identified LUST sites where possible hydrocarbon contamination may occur.

5. Mechanical Joint Restrained Joints: Full body style, ductile iron radial type bolt retainer glands for mechanical joint applications design for respective pipe material being used and for MJ fittings and valves. Split-ring retainer glands will not be permitted on new construction except under special circumstances. All glands shall be of uniform thickness and utilize a standard MJ gasket and match standard MJ bold circle, using 304/316 SS bolts and nuts (Teflon coated) required for installation.

Acceptable mechanical joint restraint styles include EBAA IRON INC. 1100, 1100SD, or 1100HD Series MEGALUG Mechanical Joint Restraints.

6. Other Restraints: Tie rod system or assembly is subject to MPW's approval. Tie rods shall be no less than 3/4-inch diameter threaded steel coated with two coats of coal tar epoxy paint or approved spray on bituminous automotive undercoating material.

7. Casing Pipe: Steel casing for bored and jacked steel casings shall conform to SUDAS 3020, with a minimum 3/8" thickness, except as noted below.

a) Casing Spacers: Casing spacers shall be specifically manufactured for installation of ductile iron water main in steel casings. Spacers shall be able to remain securely fastened to the water main during installation of water main in the casing. Choice of casing spacers is subject to MPW's approval. Preferred supplier: Powerseal Model 4810.

b) End Seals: End seals for steel casings shall be rubber, HDPE or neoprene wrap around type with stainless steel bands manufactured for that specific purpose and sized accordingly. Choice of end seals is subject to MPW's approval. Preferred supplier: Powerseal end seals.

B. Pipe Fittings: Ductile iron fittings shall conform to ANSI/AWWA C110/A21.10 (full-body) and ANSI/AWWA C153/A21.53 (compact). Fittings shall be cement-mortar lined in accordance with ANSI/AWWA C104/A21.4.95. For pipes with a nominal diameter 4 inches and larger fittings shall be mechanical joint or as specified by the specific Plans for the Project. Bolts, nuts, and washers shall be stainless steel or high strength low alloy Cor-ten Blue.

HDPE pipe fittings for new construction shall conform to ANSI/AWWA C906-15 and be heat fused. When restrained mechanical joints are specified for HDPE pipe Mueller AquaGrip or Engineer approved equal shall be provided.

C. Tapping Sleeves: Tapping sleeves for ductile iron or PVC water main pipe taps shall be stainless steel per ASTM A-240, fully enclosed tapping sleeve, full wrap gasket, full flange, and stainless-steel bolts and nuts with 3/4-inch NPT test plug with stainless plug. Approved tapping sleeve styles include JCM-432, Ford-FTSS, Mueller-H-304 or approved equal with nitrile gasket.

D. Valves and Valve Boxes:

1. Gate Valves: All gate valves shall conform to AWWA C509. Acceptable manufacturer is Mueller. Gate valves shall meet the following specific requirements: Resilient seated wedge type. Manufacturer-tested to 500 psig, 250 psig working pressure, turn clockwise (right) to open, epoxy coated (triple dipped). Stainless steel bolts in the bonnet, bi-directional flows and flat bottom for handling, brass trim, triple O-ring seal on stem and O-ring seal on bonnet with the top two replacements with valve open, non-rising stem with 2-inch square wrench nut with notification washers made from polymer, all bolts to be stainless steel.

2. Butterfly Valves: Butterfly valves shall only be used in special circumstances and shall conform to AWWA C504. Butterfly valves shall meet the following specific requirements: Steel adjusting packing, stainless shaft. stem with 2-inch square wrench nut, turn clockwise (right) to open, epoxy coated, all bolts to be stainless steel, domestic preferred.

3. Tapping Valves: Tapping valves shall be fully open style to accommodate MPW's tapping machine (MJ to mechanical joint). Tapping valves can be MJ x MJ if using the Ford FTSS sleeve with MJ outlet. Approved application is MJ x MJ gate valve with the Ford FTSS sleeve with MJ outlet.

4. Valve Boxes: Valve Boxes shall be domestic only, heavy duty, Tyler 664S or East Jordan with centering ring or approved equal. Cover shall have the word "WATER" cast into the cover. Provide 5'-0" standard length unless specified otherwise.

5. Extension Stems: Extension stems shall be provided for buried valves when the operating nut is more than 5'-6" below finished grade. Each extension stem for a buried valve shall extend to between 5'-0" and 5'-6" of the ground surface, no exceptions will be allowed, and shall be provided with spacers, which center the stem in the valve box, and shall be equipped with a 2-inch wrench nut painted red.

E. Fire Hydrants: Fire hydrants shall conform to AWWA C502. All hydrants shall be Mueller Super Centurion or Waterous Pacer meeting the following specific requirements: 6-inch mechanical joint connection, direction to OPEN shall be clockwise (right), nozzles: two 2-1/2-inch hose nozzles, one 4-1/2-inch pumper nozzle, nozzles to be National Standard Thread (NST) style, O-ring packing nitrile, suitable for 5'-0" depth of cover unless specified otherwise on Plans. Valve opening of 4-1/2 inch, automatic drain valve to drain hydrant barrel when main valve is closed. Operating nut shall be National Standard 1 inch square, oversized mechanical joint shoe, epoxy coated bowl. All underground parts shall be constructed of ductile iron with Stainless steel bolts. Shall include 1" washed rock around the drips in the hydrant.

Exposed hydrant body shall be factory primed painted white and buried portion shall have top coats black.

F. Tracer Wire: All tracer wire components for water main pipe shall be Copperhead brand, blue polyethylene jacketed direct bury type.

1. Open-Cut Installation: use number 12 superflex part number\1230B-SF-500', 1,000', 2,500' with a 45 mil coating.

2. Horizontal Directional Drill Installation: #12 ccs Extra high strength – Blue – "Soloshot" – for HDD, part number 1245B-EHS-500', 1,000', 2,500' with a 45 mil coating.

Tracer wire splices shall be Copperhead Industries LLC tracer wire. Dry-con connectors – 3WB-01-Blue, 3-way direct bury lug connector. Snake Pit Trace Wire Boxes – RP14*TP for roadway, LD14*TP – Adjustable for light duty. Copperhead 1 lb. magnesium anode used on dead-end trace wires. Cobra Test Station for service ends, T3-B75, Blue or approved equal for all Tracer wire parts.

G. Gravel Backfill: Gravel for drainage shall be clean washed gravel 3/4 inch to 1-inch size without fines or standard washed pea gravel.

H. Corrosion Protection: All ductile iron pipe, fittings and buried hydrant barrels shall be protected from corrosive soils by wrapping with NLT 10-mil thick polyethylene tubing or sheeting conforming to ANSI/AWWA C105/A21.5. The poly-wrap shall be secured around the pipe with 2-inch wide by 10-mil thick tape supplied by the poly-wrap manufacturer.

I. Insulation: Insulation shall be required where water main pipe is within 4 feet of the ground elevation. Above ground: insulation shall be Pittsburg Corning Foamglas with Pitwrap. Insulation thickness shall be as shown on the Plans, no less than 5 inches thick. Bells will be covered. Below ground: rigid insulation, minimum 2" thick.

J. Services: All new water service piping shall have a minimum 1" nominal diameter from the main to the service meter. During water main replacement projects all services shall be replaced to the meter with approved pipe material if the existing service line is not approved service line material.

Service lines 2 inches in diameter and smaller, but no less than 1" shall be Type K (heavy), soft annealed, seamless copper. Connections to existing service lines (where required) shall be 3 piece compression type, Mueller 110 Conductive Compression Connection. If the main is wrapped with poly-wrap, the service should also be wrapped 3-4 feet from the main. HDPE service lines must be approved before construction.

Tapping pipe saddles shall be as follows:

1. Service Saddle for DIP: Tapping ductile iron or cast iron pipe for 1-1/2 inch and 2 inch sizes shall be JCM 406, ROMAC Style 202NS, Smith Blair 317, Mueller DR2S or Ford FC202 service saddles, nylon or thick epoxy coated with stainless steel straps for use on ductile iron or cast iron pipe. Torque to manufacturer's specifications.
2. Service Saddle for HDPE: Tapping HDPE pipe for 1-1/2 inch or 2 inch sizes shall be JCM 406 or ROMAC 202N-H, nylon or plastic coated with stainless steel straps for use on HDPE pipe and should be supplied with concave or spring washers. Fused saddles can be Integrity of Fischer Brand electrofusion branch saddles.

Corporation and curb stops shall be as follows:

3. Corporation: Mueller No. B-25008, 1" brass. Corporations are provided by MPW unless otherwise specified in Detailed Specifications for Project. Lead free brass.
4. Curb Stops: Lead free brass Mueller H-10314 curb stop valve, Mueller or AY McDonald boxes and valve with 5' long curb box, extension type – arch pattern base, one piece lid with rod, upper section lid to be two-hole style.

K. Backflow Prevention: Backflow prevention devices shall conform to requirements of MPW's current "Backflow Prevention Policy" and MPW's current "Customer Service Handbook". Check with MPW's Metering Department for latest updates of both documents.

L. Concrete: Concrete shall be air entrained with a minimum 28-day compressive strength of 4000 psi. In instances where high early strength is desirable as in cases where it is desirable to open roadways sooner to traffic or to shorten maintenance time for traffic control signage and barricades for street cuts, IDOT C-4 or M-4 mix shall be used. For thrust blocks, a minimum of 24 hours for cure time on M-4 is required prior to pressure testing.

M. Seeding, Fertilizer and Mulch: The rates of seed, fertilizer, and water applications required by this Subsection M are minimums, and the Contractor shall be solely responsible for the establishment of 70% grass coverage of all unpaved or otherwise uncovered areas of soil within the limits of the Project or disturbed soil by the Contractor. Additional labor, materials, equipment and incidentals to establish the 70% coverage shall be subsidiary to the pay items "Seeding and Fertilizing".

All areas which have been disturbed by the Contractor during construction shall be graded and shaped to the grades shown on the Drawings, and shall be finished with 6 inches of topsoil provided by the Contractor and approved by the Engineer. Topsoil may be either material selected from the site or imported material. shall be the following:

1. Fertilizer: Fertilizer to be seed starter 13-13-13 or 15-15-15. Fertilizer is to be applied at a rate of 50 pounds per 4000 square feet.
2. Seed: Seed mix to be equal parts Kentucky Bluegrass, Fescue and perennial rye. Seed mix is to be applied at rate of 5 pounds per 1000 square feet.
3. Mulch: Mulch to be clean straw pinned in place over all seeded areas. Straw mulch is to be applied at rate of one 40 pound bale per 600 square feet.

An equivalent hydro seeding application may also be considered.

1.6 SUBMITTALS

- A. All shop drawing submittals shall include a standard transmittal form.
- B. Shop drawing submittals shall be in PDF format for all submittal items required in the Detailed Specifications for the Project.
- C. Contractor shall submit manufacturer's catalog data for all items to be used in constructing the Project, one electronic Adobe .pdf file.
- D. Contractor shall submit certificates from manufacturers evidencing compliance with standards listed in this Standard Specification and as listed in the Detailed Specifications for the Project.

1.7 TRAFFIC CONTROL

- A. Traffic control shall be coordinated with City of Muscatine Police and Engineering Departments or the Iowa Department of Transportation as appropriate.
- B. Traffic control shall meet the requirements of IDOT “Work Zone Safety Guidelines for Utilities”, current edition and MUTCD.

1.8 INSPECTION AND TESTING

- A. Construction Inspection: Construction will be inspected by MPW's Project Leader or other designated representative. No pipe or appurtenances shall be buried prior to final approval by MPW or MPW Representative. All change orders must be processed in writing through the Project Leader.
- B. Compaction Testing: In place density testing for compaction shall be conducted for water main installation under a roadway. If the water main installation is installed during a road improvement project the compaction testing may be completed by another Contractor. Compaction testing is not required when the water main is installed 10' or more outside of the roadway unless stated otherwise on the Plans or in the Detailed Specifications for the Project. In the event of a disagreement as to whether the compaction requirements have been met when no testing is required, the Contractor shall enlist the services of an MPW-approved independent soil testing company to make field tests as necessary to establish compliance with this Standard Specification. Contractor shall pay costs of all failing tests and MPW shall pay costs of all passing tests. Costs of laboratory determinations will be divided between Contractor and MPW based on percentage of field tests each is responsible to pay for. Moisture density testing shall conform to ASTM D1557. Field density tests, when required, shall be performed as directed by MPW's Project Leader. A minimum of one test shall be taken every 300 feet along the trench for each 8-inch lift or layer of backfill material. Field density tests shall conform to ASTM D1556.
- C. Concrete Testing: One set of four concrete test cylinders shall be taken for each concrete pour. Cylinders will be retained by MPW and broken if a question arises as to the strength of the concrete provided. Each cylinder shall be provided with a tag giving the date, time, location and strength requirements specified for the Project. Tag to be taped to each cylinder with several wraps of fiber packing tape.
- D. Material Inspection: All pipe and appurtenances are subject to inspection by MPW at the point of delivery. Material found to be defective due to manufacture or damaged in shipment shall be rejected or recorded on the bill of lading and removed from the job site. MPW may perform tests as specified in the applicable AWWA standard to ensure conformance with the standard. In case of failure of the pipe or appurtenance to comply with such Specifications, responsibility for replacement of the defective materials becomes that of the Contractor.

E. Filling and Flushing: Pipe and appurtenances to be tested shall be filled slowly with potable water. After filling, lines shall be flushed at blow-offs and dead-ends at a minimum velocity of 3.0 feet per second in the pipeline to be tested (refer to AWWA C651-14 Table 3 for required flow and openings). Flushing shall be carried out until turbidity-free (< 5 NTU or system ambient values) water is obtained from all points along the main. Certain contaminants resist flushing at any feasible velocity and pigging of the main may be required. A special pipeline pig may be required when the required flushing velocity cannot be achieved or when needed to conserve water during water use restriction period or to remove cake deposits or to prevent erosion damage, nuisance or traffic interruption, as directed by the Engineer.

F. Pressure and Leakage Testing: Pressure test after initial flushing of line and before bacteriological testing has commenced. An MPW's Representative shall be present at the beginning and end of each pressure test. MPW shall be notified of the time of the test a minimum of 24 hours prior to the test. MPW's Representative shall record the test pressure at 30-minute intervals. The duration of the pressure test shall be a minimum of two hours and cannot commence until MPW's Representative records the initial test pressure. The pipeline shall be allowed to stabilize at the test pressure before conducting the hydrostatic test.

1. Before applying the specified test pressure, air shall be expelled completely from the pipe, valves, and hydrants. After all the air has been expelled, all corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged or left in place as directed by MPW.
2. All exposed pipe, fittings, valves, hydrants, and joints shall be examined carefully during the test. Any damaged or defective pipe, fittings, valves, hydrants, or joints that are discovered during the pressure test shall be repaired or replaced with sound material, and the test shall be repeated until line passes test to MPW's satisfaction.
3. All make up water and make up water containers and pumps shall be cleaned and disinfected with a 6 to 8% chlorine bleach solution.
4. When hydrants are in the test section, the test shall be made against the auxiliary valves of the hydrant.
5. The contractor may be responsible for disinfection of the water main on a case by case basis.

Pressure testing shall be conducted through MPW installed corporations and not through fire hydrants.

The pressure test shall consist of holding a minimum hydrostatic pressure of 150 pounds per square inch for a period of two hours at the lowest elevation of the test section. Test pressure shall not exceed pipe, thrust-restraint, or appurtenances' design pressure at the lowest section of pipeline being tested.

Water mains shall be pressure tested at valved sections, not exceeding 1200 feet in total length. Valves shall not be operated in either direction at differential pressures exceeding the rated valve working pressure.

A two pound test gauge with a minimum capacity of 160 pounds will be required. The test shall conform to the applicable sections of AWWA C-600, AWWA C-605 or AWWA C-906. The hydrostatic test pressure shall not vary by more than +/- 5.0 psig for the duration of the test period. The test pressure shall be maintained within this tolerance by adding make-up water through a metered pressure test pump into the pipeline test segment. The meter on the pressure test pump shall be capable of reading to the nearest 0.10 gallon increment. All make-up water added shall be accurately measured in gallons (and fractions thereof) by suitable methods. The total make-up water added during and at the conclusion of the test period to reach the required test pressure shall not exceed the calculated leakage allowance for the pipeline segment being hydrostatically test as outlined in sections AWWA C-600, AWWA C-605 or ASTM F2164.

CAUTION: Pressurize HDPE pipe in accordance with manufacturer's recommendations. Pressurizing HDPE pipe for testing or placing into service requires additional precautions: Leaks at pressurized fusion joints may immediately precede catastrophic and sudden pipe separation and result in violent and dangerous movement of piping or attached parts and cause a sudden release of piping contents under pressure. Never approach or attempt to repair or stop leaks while pipe is pressurized. Always depressurize pipe before making corrections. Faulty fusion joints cannot be repaired. They must be cut out and rejoined using proper heat fusion procedures.

G. Tracer Wire Inspection: Tracer wires will be tested by MPW for continuity shortly after pressure testing has been completed.

H. Disinfection: At a minimum the standards set forth in AWWA C651 shall be followed excluding the use of calcium hypochlorite granular tablets. Preferred disinfection method is the continuous-feed method for new waterline construction.

A more specific description of the process follows:

Once the pipe section has been slowly filled, the bacterial/disinfection test will be officially started. The test requires the pipe to stand for 24 hours undisturbed after the initial chlorination testing confirms that a minimum of 25 ppm available chlorine is present when using the continuous-feed method. If less than 25 ppm of chlorine is available at initial filling, the test will be considered invalid and pipe must be rechlorinated. After 24 hours the residual will be checked to confirm that not less than 10 ppm of chlorine is available. If confirmed, the pipe can be flushed until the available chlorine is equal to the normal distribution levels and a sample for analysis will be drawn. The pipe shall be isolated again for 24 hours. After 24 hours, the water will be tested a second time to confirm not less than 0.3 ppm of chlorine remains in the main. If confirmed a second sample will be drawn for bacteriological analysis. Failure of any of the above test results will require re-chlorination to the minimum 25 ppm and repeat bacteria testing. All chlorinated water needs to be de-chlorinated by an approved method before it is released to the environment.

The contractor may be responsible for de-chlorination of the water main from high test chlorination on a case by case basis.

I. Bacteriological Testing: MPW will take two bacteriological samples 24-hours apart for in-house analysis after disinfection for each sample location as required in AWWA C651. Contractor shall assist MPW in collecting samples as required. MPW will not place installation into operation until test results from water samples taken test out satisfactory. One set of bacteriological tests shall be collected from every 1,200 foot section of new water main, plus one set from the end of the line and at least one set from each branch.

For any failed bac-t test, the IDNR must be notified by MPW lab staff.

All pressure testing and bacteriological tests shall be completed prior to the installation of service lines.

1.9 LOCATING BURIED UTILITIES

A. Contractor shall contact the Iowa One-Call system at 1-800-292-8989 for locations prior to doing any excavating (48 hour notice required).

B. All utility crossing shall be exposed by pot-holing or day-lighting prior to crossing with underground drilling equipment, HDD, moles, etc.

1.10 PROTECTION OF EXISTING FACILITIES

A. Contractor shall exercise care to assure that all private and publicly owned facilities, buildings, poles, wires, walkways, roadways, and other items near the construction area and not shown as removal items on the Plans are protected so they are not damaged or destroyed.

B. Contractor shall repair or replace all damaged items.

1.11 WORK BY MPW AND COORDINATION WITH MPW

A. Contractor shall coordinate activities with MPW so that disturbances to normal utility water system operations are minimized. Contractor shall provide a minimum 24-hour notice to MPW to allow adequate scheduling of men and equipment. Contractor shall assume all responsibility for costs incurred due to the lack of 24-hour notice to MPW. MPW must be notified at least 3 working days before a scheduled water outage to allow time for customer notification.

B. Operation of all valves and hydrants during charging of main, pressure testing, disinfection and bacteria testing shall be by MPW unless MPW specifically directs otherwise.

C. MPW will provide tapping and corporations up to 2-inch size required for blowing off air and making pressure tests to line segments installed. On contracts for developers, costs for this work are to be paid by the developer. On in house contracts let by MPW, costs for this work will be paid by MPW and not billed to contractor.

D. Tapping of existing water mains with taps of up to 12-inch size will be done by MPW unless otherwise noted in Detailed Specifications for the Project. On contracts for developers, costs for this work are to be paid by the developer. On in house contracts let by MPW, costs for this work will be paid by MPW and not billed to contractor.

E. MPW will hold electrical poles where necessary for construction if construction is within MPW's electrical service area. Contractor shall provide a minimum 24-hour notice to MPW to allow adequate scheduling of men and equipment. On projects contracted by Muscatine Power and Water there will be no charge to Contractor for this service. On all other projects, Contractor will be billed for this service. Contractor will be responsible for the coordination and fees charged by utilities for this service outside MPW's electrical service area.

1.12 TRENCH EXCAVATION

A. Trench excavations shall be in compliance with 29 CFR Part 1926 OCCUPATIONAL SAFETY AND HEALTH STANDARDS-EXCAVATIONS.

B. Sheeting, shoring, bracing, and trench boxes shall be of an OSHA approved design and certified in accordance with current OSHA rules and regulations. Sheeting and shoring materials shall be removed in a manner that avoids damage or disturbance to the work completed or adjacent structures or pavements. Trench boxes shall be lifted prior to moving forward to prevent displacement of pipe in place.

C. Compact light weight trench boxes or shoring shall be required in front yard stop box replacements for contractor's safety and to minimize disturbances to lawn, sidewalk and parking areas.

D. Excavation depth to provide a minimum 5'-0" cover over top of pipe.

E. Trench width shall be ample to permit the pipe to be laid and joined properly but should be no more than 12 inches on either side of the pipe. Keep walls of trench vertical below top of pipe.

F. Level trench bottom to provide uniform bearing and support for full length of the pipe barrel. Provide bell holes for each pipe joint. Stones found in the trench shall be removed for a depth of at least 6 inches below bottom of pipe.

G. If soft, spongy, or otherwise unsuitable materials are encountered which do not provide suitable bedding or support for the pipe, Contractor shall notify MPW's Project Leader or designated representative immediately.

If removal of unsuitable material is authorized, contractor is responsible for removal of material.

Contractor shall replace unsuitable materials with MPW approved crushed stone, sand, or manufactured sand as appropriate. New materials shall be placed and compacted in accordance with backfill portion of this Standard Specification.

H. All pipe installations shall be conducted only in dry materials. Contractor shall take such steps as are necessary to prevent surface and ground water from flowing into the excavation. Remove all accumulated water by pumping or dipping with equipment bucket.

I. Dewatering systems, if required, shall be subject to MPW's approval and shall remain in place until construction work and testing have been completed.

J. Removal of pavement and road surfaces shall be a part of the trench excavation. Pavement removal shall conform to City of Muscatine Public Works requirements. MPW requires concrete removal to be accomplished using a hydraulic system such as a jack hammer on a backhoe attachment.

1.13 BACKFILL AND COMPACTION

- A. Backfill shall not proceed until water main installation, thrust blocking, or thrust restraints have been inspected and approved by MPW's Project Leader or designated representative.
- B. Backfill materials shall be suitable soils from trench excavation or from a borrow area approved by MPW's Project Leader. Suitable materials shall be free of debris, small stones, rock, roots, lumps, frozen materials or any other items that will prevent placing and compacting the material to the density required.
- C. Backfill under or within 10 feet of the edge of roadways or parking areas shall be manufactured sand compacted in accordance with this Standard Specification.
- D. Backfill materials shall be approved by MPW's Project Leader prior to placement.
- E. Backfill shall be placed on both sides of pipe simultaneously to prevent displacement. Place backfill in successive horizontal lifts of not more than 8 inches loose depth. This depth may be adjusted if it can be shown that required compaction can be achieved utilizing a different layer thickness. Backfill shall be placed and compacted using equipment 18 inches above top of pipe. Refer to Attachment 5 for more details.
- F. Place material at proper moisture content for obtaining specified density.
- G. Compaction requirements are as follows:
 - 1. Areas beneath or within 10 feet of edge of roadways or parking areas shall be compacted to 95 percent of maximum dry density as determined by ASTM D1557.
 - 2. All other areas shall be compacted to 90 percent of maximum dry density as determined by ASTM D1557.
 - 3. Method of compaction is subject to MPW's approval.
- H. "Flooding" or "jetting" of backfill trench is not an acceptable compaction method or process and will not be approved.

1.14 PIPE AND MATERIAL HANDLING AND STORAGE

- A. All pipe, fittings, valves, hydrants, and accessories shall be loaded and unloaded by lifting with hoists or skidding in order to avoid shock or damage. Under no circumstances shall materials be dropped. Pipe handled on skid ways shall not be rolled or skidded against pipe on the ground.
- B. Slings, hooks, or pipe tongs shall be used in such a manner as to prevent damage to the exterior surface or internal lining of the pipe.

C. Stored materials shall be kept safe from damage. The interior of all stored and placed pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times by use of tight-fitting end plugs or sturdy durable plastic bags or other MPW approved means. Pipe and fittings contaminated with mud and surface water shall be removed from the site and not used in construction unless thoroughly cleaned by the Contractor and inspected and approved by MPW. Valves and hydrants shall be drained and stored in a manner that will protect them from damage by freezing.

D. Gaskets for mechanical and push-on joints shall be stored in a cool location, out of direct sunlight. Gaskets shall not come in contact with petroleum products. Gaskets shall be used on a first-in, first-out basis.

E. Mechanical-joint bolts shall be handled and stored in a dry location in a manner that will ensure proper use with respect to types and sizes.

F. Staging will not occur prior to one week of construction and placed in a neat and orderly fashion.

1.15 PIPE INSTALLATION

A. Ductile iron pipe installation shall conform to the requirements of ANSI/AWWA C600. PVC pipe installation shall conform to the requirement of AWWA C605. HDPE installation shall conform to the requirement of AWWA M55.

B. Proper implements, tools, and facilities shall be provided and used for the safe and convenient performance of the work. All pipe, fittings, valves, and hydrants shall be lowered carefully into the trench by means of suitable tools, rigging and equipment, in such a manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench. The trench shall be dewatered prior to installation of the pipe.

C. All pipe, fittings, valves, hydrants, and other appurtenances shall be examined carefully for damage and other defects immediately before installation. Defective materials shall be marked and held for inspection by MPW, who may prescribe corrective repairs or reject the materials.

D. All lumps, blisters, and excess coating shall be removed from the socket and plain ends of each pipe, and the outside of the plain end and the inside of the bell shall be wiped clean and dry and be free from dirt, sand, grit, or any foreign materials before the pipe is laid.

E. Foreign material shall be prevented from entering the pipe while it is being placed in the trench. No debris, tools, clothing, or other materials shall be placed in the pipe at any time.

F. As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade. The pipe shall be secured in place with approved backfill material. Lay pipe in dry bedding material.

G. At all times when pipe-laying is not in progress, the open ends of pipe shall be closed by a watertight plug or other means approved by MPW. When practical, the plug shall remain in place until the trench is pumped completely dry. Care must be taken to prevent pipe flotation, should the trench fill with water.

H. Cutting pipe for insertion of valves, fittings, or closure pieces shall be done in conformance with all safety recommendations of the manufacturer of the cutting equipment. Cutting shall be done in a safe, workmanlike manner without creating damage to the pipe or cement-mortar lining. All PPE shall be used while cutting, including safety glasses and a shield. Pipe may be cut using a hydraulic squeeze cutter, abrasive pipe saw, rotary wheel cutter or guillotine pipe saw. Cut ends and rough edges shall be ground smooth, and for push-on joint connections, the cut end shall be beveled by methods recommended by the manufacturer and approved by MPW.

I. For installations requiring polyethylene encasement for ductile-iron pipe, the encasement shall be installed in accordance with ANSI/AWWA C105/A21.5 and recommendations of DUCTILE IRON PIPE RESEARCH ASSOCIATION INSTALLATION GUIDE FOR DUCTILE IRON PIPE. This includes overlapping and the correct tape to be used on the joints. Use 10 mil blue or black polywrap pipe sleeve from AA Thread or equivalent. Use 10 mil PVC tape to bind ends with 1 ½' overlap. On mechanical or open joints with couplings, use cross laminated HDPE joint wrap, 10 mil XLAM HDPE joint wrap.

J. Pipe which is damaged or unsound will be rejected and marked. Sound pipe before installation to detect cracks.

K. Use suitable fittings where grades or alignments require offsets greater than manufacturer's recommended joint deflections.

L. Follow manufacturer's recommended installation and assembly practices.

M. CAUTION: Pressurizing HDPE pipe for testing or placing into service requires additional precautions: Leaks at pressurized fusion joints may immediately precede catastrophic and sudden pipe separation and result in violent and dangerous movement of piping or attached parts and cause a sudden release of piping contents under pressure. Never approach or attempt to repair or stop leaks while pipe is pressurized. Always depressurize pipe before making corrections. Faulty fusion joints cannot be repaired. They must be cut out and rejoined using proper heat fusion procedures.

N. TRENCHLESS INSTALLATION

1. General: Select a method of installation that is appropriate for the soil conditions anticipated and will 1) allow the pipe to be installed to the desired line and grade within the specified tolerances; 2) prevent heaving or settlement of the ground surface or damage to nearby facilities; and 3) prevent damage to the carrier pipe and any lining materials within the carrier pipe.
2. Installation Method: Horizontal directional drilling (HDD) shall be the primary method for installing pipe with trenchless technology. HDD installs pipe from a surface-launched drilling rig. A pilot bore is formed and then enlarged by back reaming and removing the spoil material. The pipe is then pulled in place. Other methods may be allowed with the Engineer's approval.
3. Line and Grade: Install pipe at line and grade that will allow the carrier pipe to be installed at its true starting elevation and grade within the specified maximum alignment deviation of the pipe centerline. When no deviation tolerances are specified in the contract documents, apply the following maximum deviations to the carrier pipe.
4. Pressurized Pipe: Tolerances for installation of pressurized water main pipe shall include horizontally accuracy of ± 2.0 feet, vertical accuracy ± 1.0 foot, while maintaining the minimum depth specified in the contract documents. Greater deviation or interference with other identified facilities may be cause for rejection.
5. Deviation from Line and Grade: Installations deviating from the specified tolerances that cannot be adjusted to conform to the specified tolerances may be rejected by the Engineer. If nonconforming installation is not rejected, provide all additional fittings, manholes, or appurtenances needed to accommodate horizontal or vertical misalignment, at no additional cost to MPW. Abandon rejected installation and place special fill materials, at no additional cost to MPW. Replace abandoned installations, including all additional fittings, manholes, or appurtenances required to replace rejected installations.
6. Casing Pipe or Un-cased Carrier Pipe Installation: Install pipe by approved methods. Use a jacking collar, timbers, and other means as necessary to protect the driven end of the pipe from damage. Do not exceed the compressive or tensile strength capacity of the pipe during pushing or pulling operations. Fully support bore hole at all times to prevent collapse. Insert pipe as soil is removed, or support bore with drilling fluid. Fully weld all casing pipe joints. Use an interlocking connection system when approved by the Engineer. Fill space between the inside of the bore hole and the outside of the pipe with special fill material if the space is greater than 1 inch.

7. Pit Restoration: Remove installation equipment and unused materials from the launching and receiving pits. When the carrier pipe extends beyond the limits of trenchless installation and into the bore pit, place bedding and backfill material according to this Section. Place suitable backfill material in the pit. Apply the testing requirements of this Section. Restore the site to original condition or better.

1.16 TRACER WIRE INSTALLATION

- A. Copperhead tracer wire shall be installed on top of water main once backfill has been brought up to top of pipe.
- B. Tracer wires will be tested for continuity before final acceptance of the Project. Wires without continuity shall be repaired or reinstalled by Contractor.
- C. Tracer wire shall be brought up to ground level at all valve boxes and installed in a separate tracer wire box. At all dead ends and valve/hydrants, a tracer wire anode will be installed. See the tracer wire specification drawings in Attachment 4 for more detail.
- D. Tracer wire access boxes will be placed at a maximum distance of 500'.

1.17 HORIZONTAL AND VERTICAL SEPARATIONS

A. Horizontal Separation of Gravity Sanitary and Combined Sewers from Water Mains:

- 1. Separate gravity sanitary and combined sewer mains from water mains by a horizontal distance of at least 10 feet unless: (a) the top of a sewer main is at least 18 inches below the bottom of the water main, and (b) the sewer is placed in a separate trench or in the same trench on a bench of undisturbed earth at a minimum horizontal separation of 3 feet from the water main.
- 2. When it is impossible to obtain the required horizontal clearance of 3 feet and a vertical clearance of 18 inches between sewers and water mains, provide a linear separation of at least 2 feet and one of the following: (a) construct sanitary and combined sewers of water main materials meeting the requirements of SUDAS Section 5010, 2.01, or (b) enclose the water main in a watertight casing pipe with an evenly spaced annular gap and watertight end seals.

B. Horizontal Separation of Gravity Storm Sewers from Water Mains:

- 1. Separate gravity storm sewers and water mains by a horizontal distance of at least 10 feet unless it is impossible to do so.

2. When impossible to maintain a 10 feet horizontal separation, maintain a minimum separation of 3 feet and utilize one of the following within 10 feet measured edge-to-edge: (a) construct the water main of ductile iron pipe with gaskets impermeable to hydrocarbons, (b) enclose the water main in a watertight casing pipe with evenly spaced annular gap and watertight end seals, (c) construct storm sewer pipe of water main materials, or (d) construct storm sewers of reinforced concrete pipe with gaskets manufactured according to ASTM C 443.

C. Horizontal Separation of Water Mains from Sanitary and Combined Sewer Manholes:

Ensure water pipes do not pass through or come in contact with any part of a sanitary or combined sewer manhole. Maintain a minimum horizontal separation of 3 feet.

D. Separation of Sewer Force Mains from Water Mains: Separate sewer force mains and water mains by a horizontal distance of at least 10 feet unless:

1. The force main is constructed of water main materials meeting a minimum pressure rating of 150 psi and the requirements of SUDAS Section 5010, 2.01 and,
2. The sewer force main is laid at least 4 linear feet from the water main.

E. Vertical Separation of Sanitary or Combined Sewer and Water Main Crossovers:

1. Vertically separate sanitary and combined sewers crossing under water main by at least 18 inches when measured from the top of the sewer to the bottom of the water main. If physical conditions prohibit the separation, do not place the sewer closer than 6 inches below a water main or 18 inches above a water main. Maintain the maximum feasible separation distance in all cases. The sewer and water pipes must be adequately supported and have watertight joints. Use a low permeability soil for backfill material within 10 feet of the point of crossing.

2. Where the sanitary sewer crosses over or less than 18 inches below a water main, utilize one of the following within 10 feet measured edge-to-edge horizontally, centered on the crossing: (a) construct sanitary and combined sewers of water main material meeting the requirements of SUDAS Section 5010, 2.01. or (b) enclose the water main in a watertight casing pipe with an evenly spaced annular gap and watertight end seals.

F. Vertical Separation of Storm Sewer and Water Main Crossovers:

1. Vertically separate storm sewers crossing from water mains by at least 18 inches measured between the outside edges of the water main and storm sewer. Maintain the maximum feasible separation distance in all cases. The sewer and water pipes must be adequately supported and have watertight joints. Use a low permeability soil for backfill material within 10 feet of the point of crossing.
2. When impossible to maintain an 18 inch vertical separation when the water main crosses over the storm sewer, maintain a minimum vertical separation of 6 inches and utilize one of the following within 10 feet measured edge-to-edge centered on the crossing: (a) construct the water main of ductile iron pipe with gaskets impermeable to hydrocarbons, (b) enclose the water main in a watertight casing pipe with evenly spaced annular gap and watertight end seals, (c) construct storm sewer pipe of water main materials, or (d) construct storm sewers of reinforced concrete pipe with gaskets manufactured according to ASTM C 443.

G. Surface Water Crossings: Comply with the Recommended Standards for Water Works, 2007 Edition, section 3.07 CONFLICTS (Section from SUDAS)

1. Above-water Crossings: Ensure the pipe is adequately supported and anchored; protected from vandalism, damage, and freezing; and accessible for repair or replacement.
2. Underwater Crossings: Provide a minimum cover of 5 feet over the pipe unless otherwise specified in the contract documents. When crossing water courses that are greater than 15 feet in width, provide the following: (a) pipe with flexible, restrained, or welded watertight joints, (b) valves at both ends of water crossings so the section can be isolated for testing or repair; ensure the valves are easily accessible and not subject to flooding, and (c) permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples on each side of the valve closest to the supply source.

H. Should physical conditions exist such that exceptions to above separations are required, Contractor shall obtain MPW's Project Leader's assistance for details which will provide protection equal to that provided by above items. When it is impossible to obtain the minimum specified separation distances, the IDNR must specifically approve any variance from the requirements.

1.18 CONNECTIONS TO EXISTING WATER MAINS

- A. Existing water mains shall remain in service during installation of new water main. Length of time for tie-in shall be kept to a minimum. Coordinate tie-in with MPW.
- B. Uncover existing mains, to which connections are to be made, a sufficient time ahead of pipe laying operations to verify fittings required.
- C. Clean and disinfect existing main and inside of fittings and valves in accordance with Disinfection and De-chlorination section of this Standard Specification.
- D. In general, a 6' by 8' hole will be required for MPW to make a safe tapping connection. If a tap larger than 4" is being made, 6' of clearance is needed from the face of the tapping valve. The side of the pipe that is being tapped needs to be excavated lower so water does not come up on to the pipe or contaminate the tapping machine. Any excavation over 5' deep requires trench protection.

1.19 GATE VALVES AND FITTINGS

- A. Prior to installation, valves shall be inspected for direction of opening, number of turns to open, freedom of operation, tightness of pressure-containing bolting and test plugs, cleanliness of valve ports and seating surfaces, handling damage, and cracks. Defective valves shall be corrected or held for inspection by MPW. Valves shall be closed before being installed.

Valves, fittings, plugs, and caps shall be set and joined to the pipe in the manner specified for all valves for cleaning, laying, and joining pipe. Valves 12 inches and larger should be provided with special support, such as crushed stone or concrete blocks so that the pipe will not be required to support the weight of the valve. Valves shall be installed in the closed position.
- B. Install valves with stems vertical, except where shown otherwise on plans.
- C. Tighten valve glands on new and existing valves as work is installed; replace O-rings if required and retighten glands after valves are placed in operation and brought up to operating pressure. Replace any O-rings which are deteriorated or in unsatisfactory condition.
- D. A valve box shall be provided for every valve. The valve box shall not transmit shock or stress to the valve. Valve box shall be centered over the operating nut of the valve using one standard centering ring manufactured for that purpose. The box cover shall be flush with the surface of the finished area unless otherwise directed by MPW.
- E. In no case shall valves be used to bring misaligned pipe into alignment during installation. Pipe shall be supported in such a manner as to prevent stress on the valve.
- F. If valves are going to be deeper than 5' from ground surface, MPW requires an valve nut extension. If deeper than 8', a solid valve box will be required.

1.20 TAPPING VALVES AND SLEEVES

- A. Conform to requirements for gate valves and fittings listed above.
- B. Follow manufacturer's recommended assembly and installation practices.
- C. All valves and sleeves will be blocked for support.

1.21 FIRE HYDRANTS

- A. Prior to installation, all hydrants shall be inspected for direction of opening, nozzle threading, operating-nut and cap-nut dimensions, tightness of pressure-containing bolting, cleanliness of inlet elbow, handling damage, and cracks. Defective hydrants shall be replaced or held for inspection by MPW.
- B. All hydrants shall be set plumb and shall have their nozzles parallel with or at right angles to the curb, with steamer (largest) nozzle facing the curb.
- C. Hydrants shall be set to the established grade and set to the bury line marked on the hydrant so the breakaway will work correctly.
- D. Hydrant drains shall not be connected to, or located within 10 feet of, sanitary sewers and storm drains.
- E. All fire hydrants shall be independently valved. Refer to Attachment 2 for plan layout of valving and pipe.
- F. Flush hydrants will be used at the discretion of the Utility.
- G. Hydrants must meet new specifications for lead free brass.
- H. Hydrants need to be blocked with hard blocks and shims. Pour concrete only if poor soils are in the area. Refer to Attachment 1 for more details.

1.22 THRUST RESTRAINT/BLOCKING

- A. Thrust blocking: Provide cast-in-placed concrete thrust blocks where buried piping changes direction, changes size, and at dead ends, unless otherwise noted on the Plans or approved by the Engineer. Concrete shall have a minimum compressive strength of 4000 psi in 28 days. Allow concrete adequate time to reach a compressive strength of 3000 psi prior to pressure testing. Concrete thrust blocks shall be cast against undisturbed vertical edge of trench for bearing, the bearing surface of thrust block shall be symmetrical vertically and horizontally with respect to line of force of pipe or joint, thrust blocks at dead ends, at plugs and at caps shall be removable so that lines may be easily extended after testing and a period

of normal service, and thrust blocks at fittings shall be placed in such a manner as to permit tightening of mechanical joint bolts after placement of trust block.

Thrust blocks shall be subject to inspection and approval of MPW's Project Leader prior to water main testing.

B. Tie rods: Tie rods and fittings shall be suitable for use with mechanical joint fittings. Coat tie rods and fittings with 2 coats of coal tar paint or spray on bituminous automotive undercoating material after installation. Tie-rod assemblies and systems are subject to MPW's approval.

C. Thrust restraint: Mechanical joint restraints for push on or mechanical joints may be used instead of concrete blocking when indicated on the Plans or in the Detailed Specifications for the Project. The preferred method is to use joint restraints (i.e. Megalugs) in addition to concrete blocking or poured kickers.

D. A detail drawing showing typical thrust block installations is found in Attachment 3 at the end of these specifications. Thrust blocking from pipe sizes greater than 20-inches will be as shown on the Plans or in Detailed Specifications for the Project.

Sizes of thrust blocks in square feet of bearing area for water mains based on soil bearing capacity of 2000 pounds per square foot are listed in the table below:

Table 2 - Bearing Area of thrust Blocks in Square Feet

Pipe Size (Inches)	90° Bend	45° Bend	22-1/2° Bend	11-1/4° Bend	Dead End or Tee
4	3	2	2	1	2
6	6	3	2	1	4
8	10	5	3	2	7
10	14	8	4	2	10
12	20	11	6	3	14
14	26	14	8	4	19
16	34	19	10	5	24
18	40	22	11	6	28
20	52	28	15	7	37

1.23 SURFACE RESTORATION

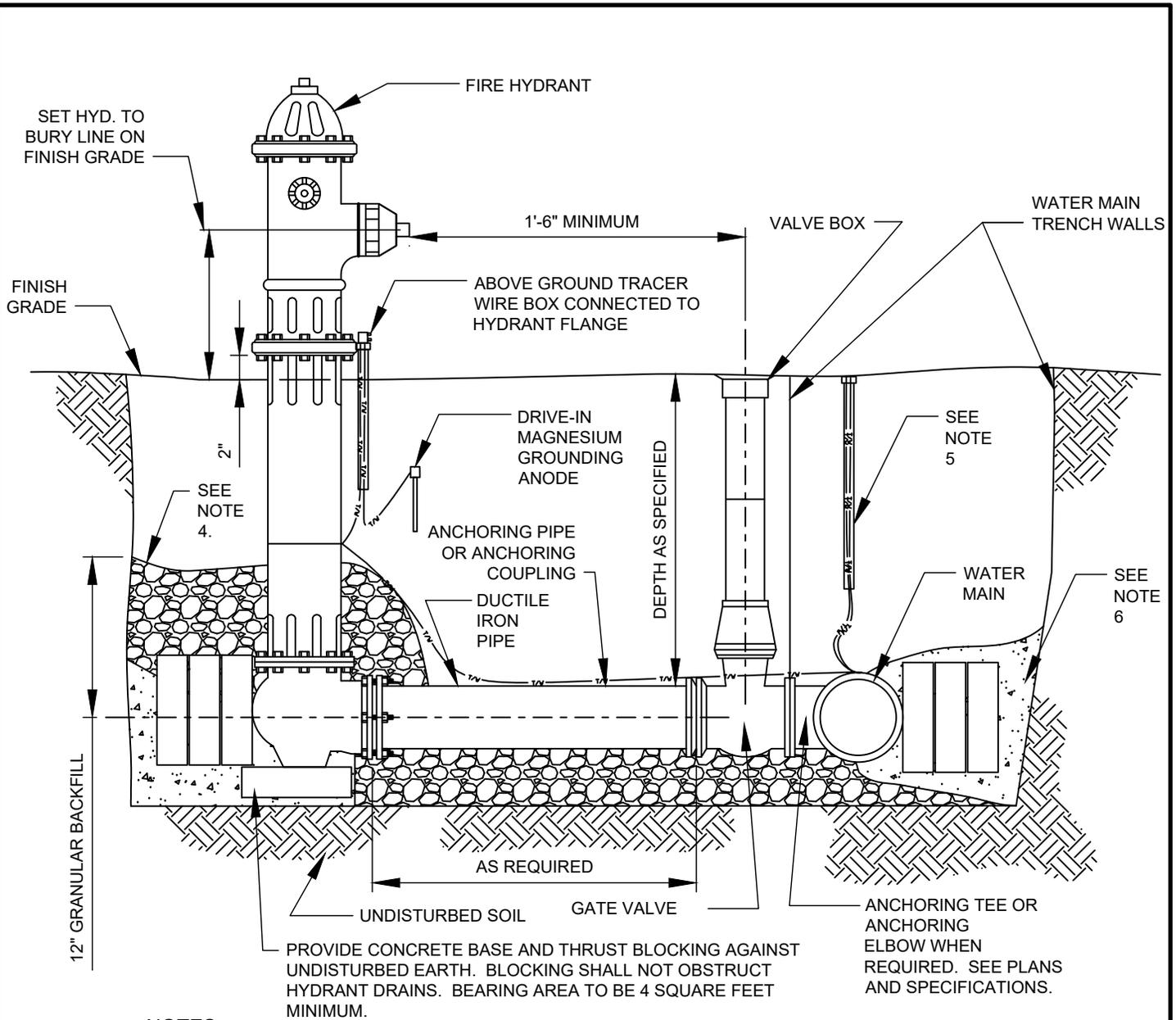
- A. Reopen backfilled areas to traffic or former use as soon as possible. Refer to Attachment 6 and 7 for typical trench and roadway repairs.
- B. Fill all depressions and grade disturbed areas to provide smooth uniformly sloping surfaces with positive drainage.
- C. Seeding details are noted in Section 1.5.M
- D. Agricultural areas shall have topsoil stripped back to a depth of 12 inches. Topsoil shall be kept separate from other excavated materials and spread back over disturbed areas after water main installation and backfill operations have been completed.
- E. Apply fertilizer, seeding and mulch at rates provided for in Materials portion of this Standard Specification.

1.24 CLEAN UP

- A. Contractor shall keep site clean and orderly. Contractor shall remove all brush, rubbish, rocks, spoil and other waste materials off site for disposal. MPW reserves the right to instruct the contractor on clean-up timelines. Excess materials from all demolitions and excavations shall be disposed of offsite by Contractor, at Contractor's expense, unless otherwise shown on Plans or described in Detailed Specifications for the Project. Leave site generally as it was prior to construction. Site shall be picked up, raked and left in a finished, smooth, clean, seeded and mulched condition.

ATTACHMENTS

1. Hydrant Installation Detail Elevation – AWD0212A
2. Hydrant Installation Detail Plan – AWD0212B
3. Thrust Block Details – AWD0212C
4. Tracer Wire Installation Plan – AWD0212D
5. Trench Detail – AWD0212E



NOTES:

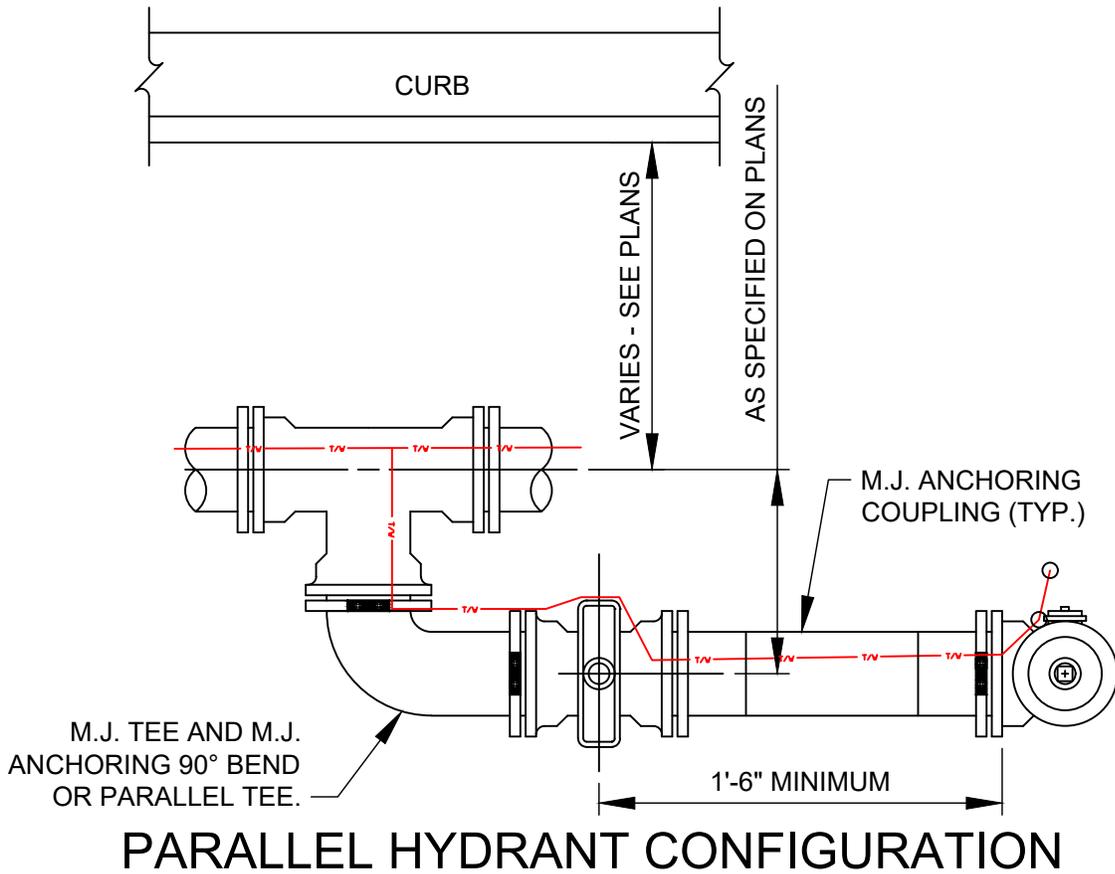
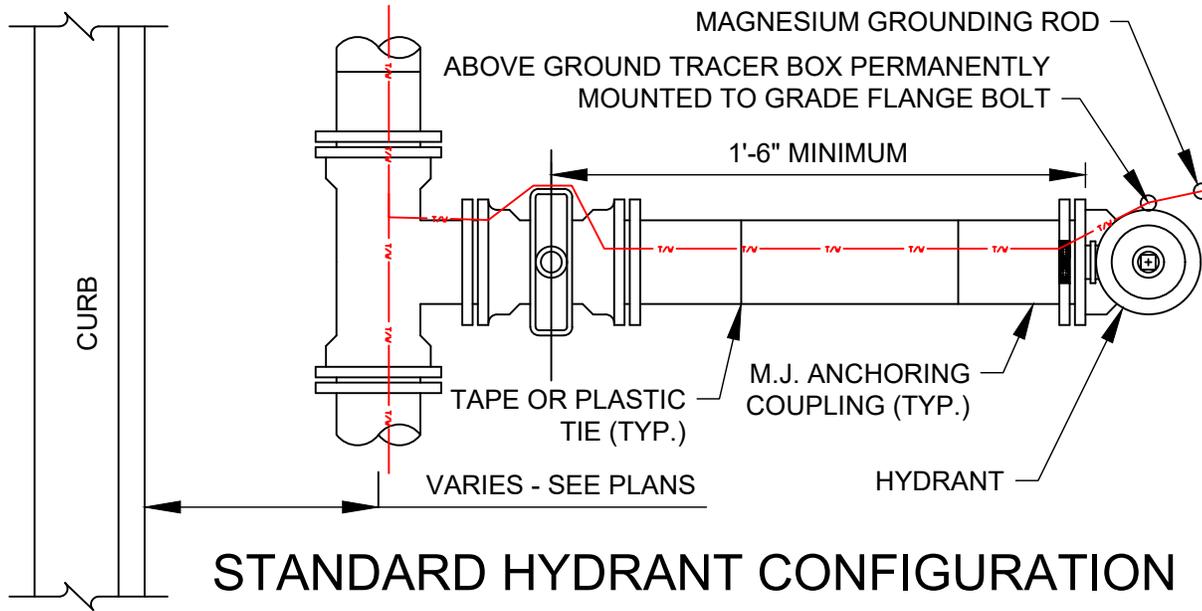
1. ALTERNATE MECHANICAL JOINT RESTRAINT SYSTEMS ARE SUBJECT TO OWNER'S APPROVAL.
2. APPLY POLYETHYLENE ENCASEMENT ON PIPE, VALVE, VALVE BOX FIRE HYDRANT AND FITTINGS AS SPECIFIED.
3. HYDRANT STEAMER NOZZLE TO BE TURNED TOWARDS STREET UNLESS SPECIFIED OTHERWISE.
4. INSTALL LAYER OF FILTER FABRIC OR 4 MIL PLASTIC FILM BARRIER OVER DRAIN FIELD. DRAIN FIELD COMPRISED OF 1/2 CU. YD. MINIMUM OF 1" WASHED GRAVEL.
5. USE SNAKEPIT TRACER WIRE BOXES ON WATERMAIN AS SPECIFIED IN PLANS.
6. USE CONCRETE BLOCKS IF SOIL IS LOAD BEARING, OTHERWISE, USE Poured CONCRETE THRUST BLOCK AS SPECIFIED IN PLANS.

DRAWN BY S. WIESKAMP	DATE 11/30/04
APPROVED BY A. GROSS	DATE 2-18-15
REVISED BY A. HANEY	DATE 2-12-15
SCALE NONE	

HYDRANT INSTALLATION DETAIL ELEVATION



FILE No.	142
DRAWING No.	AWD0212A



DRAWN BY S. WIESKAMP	DATE 11/30/04
APPROVED BY A. GROSS	DATE 2/17/15
REVISED BY A. HANEY	DATE 2/17/15
SCALE NONE	

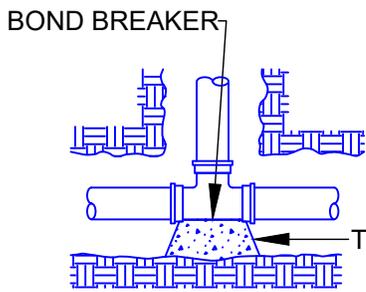
HYDRANT INSTALLATION DETAIL PLAN



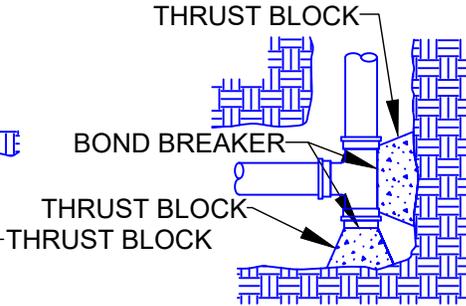
MUSCATINE POWER & WATER

FILE No. 142

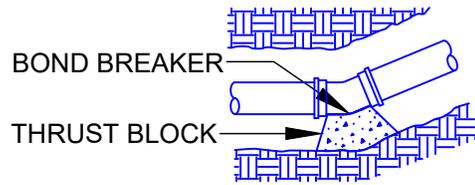
DRAWING No. AWD0212B



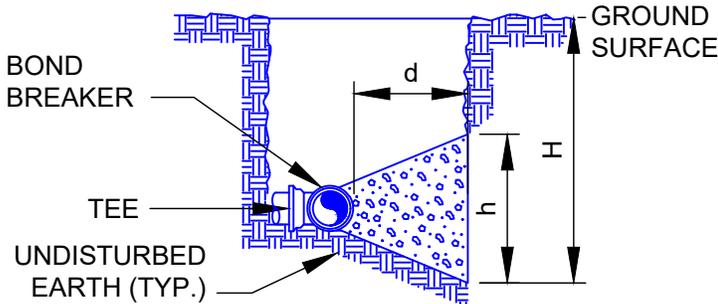
TEE (PLAN)



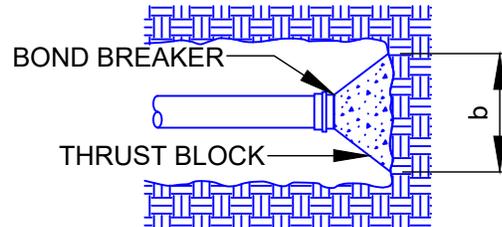
PLUGGED TEE (PLAN)



BEND (PLAN)



ELEVATION



DEAD END (PLAN)

NOTES:

- 1) BEARING SURFACE SHOULD, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE IT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY, VERIFIED BY IN PLACE DENSITY TESTING.
- 2) BLOCK HEIGHT (h) SHOULD BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (H), BUT NOT LESS THAN THE PIPE DIAMETER.
- 3) BLOCK HEIGHT (h) SHOULD BE CHOSEN SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT.
- 4) DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS, PROTECT JOINTS AND BOLTS WITH POLYETHYLENE ENCASUREMENT.
- 5) BLOCK DEPTH (d) SHALL BE AT LEAST $\frac{1}{2}$ BLOCK HEIGHT (H).

DRAWN BY S. WIESKAMP	DATE 12/02/04
APPROVED BY Gerald R. Peterson	DATE 01/13/05
REVISED BY E.B.GLENNEY	DATE 3-28-08
SCALE NONE	

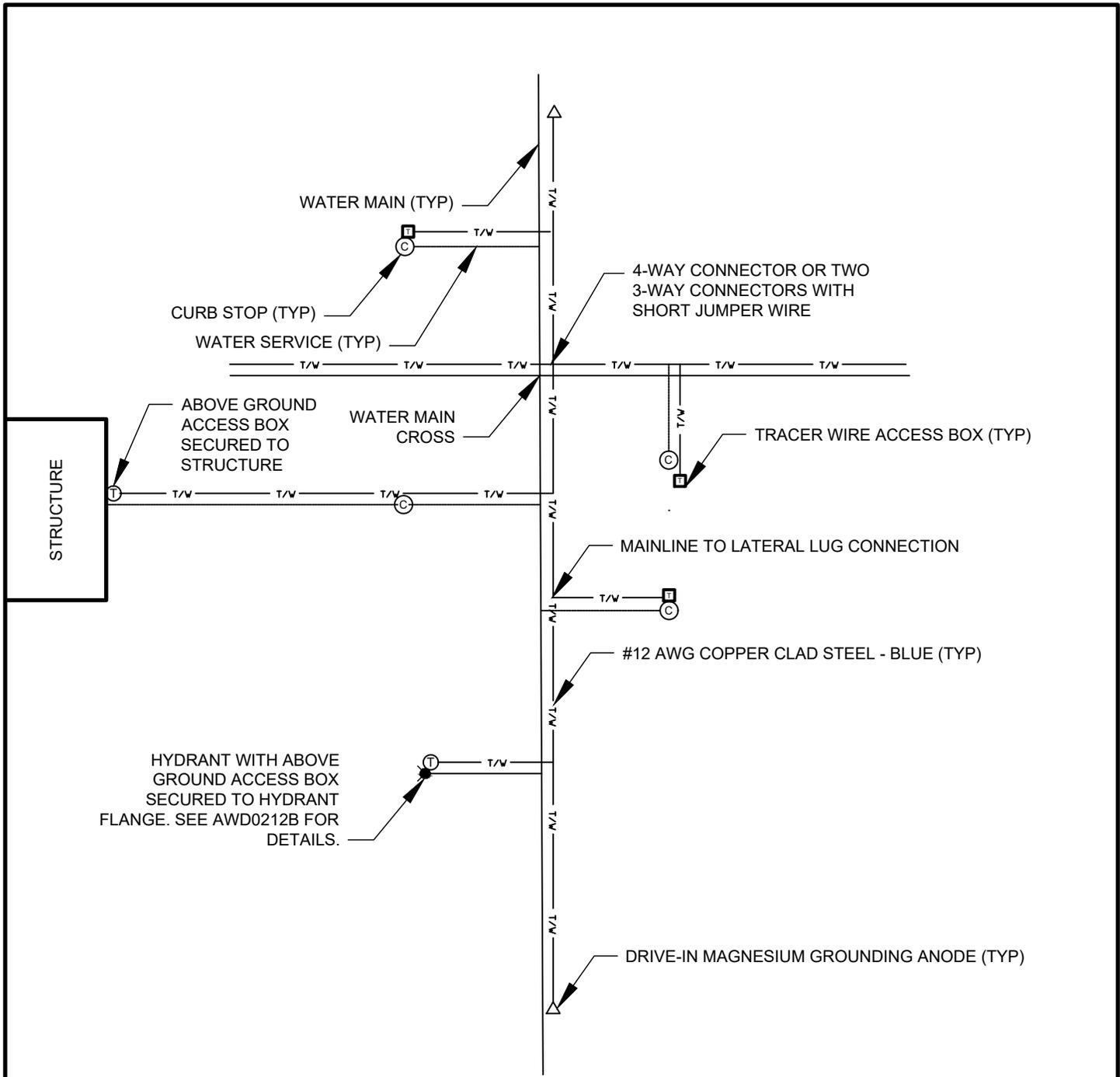
THRUST BLOCK DETAILS



MUSCATINE POWER & WATER

FILE No. 142

DRAWING No. AWD0212C



NOTES

1. TRACER WIRE SHOWN OFFSET FROM PIPE FOR CLARITY. WIRE SHALL BE INSTALLED ON TOP OF PIPE AND FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.

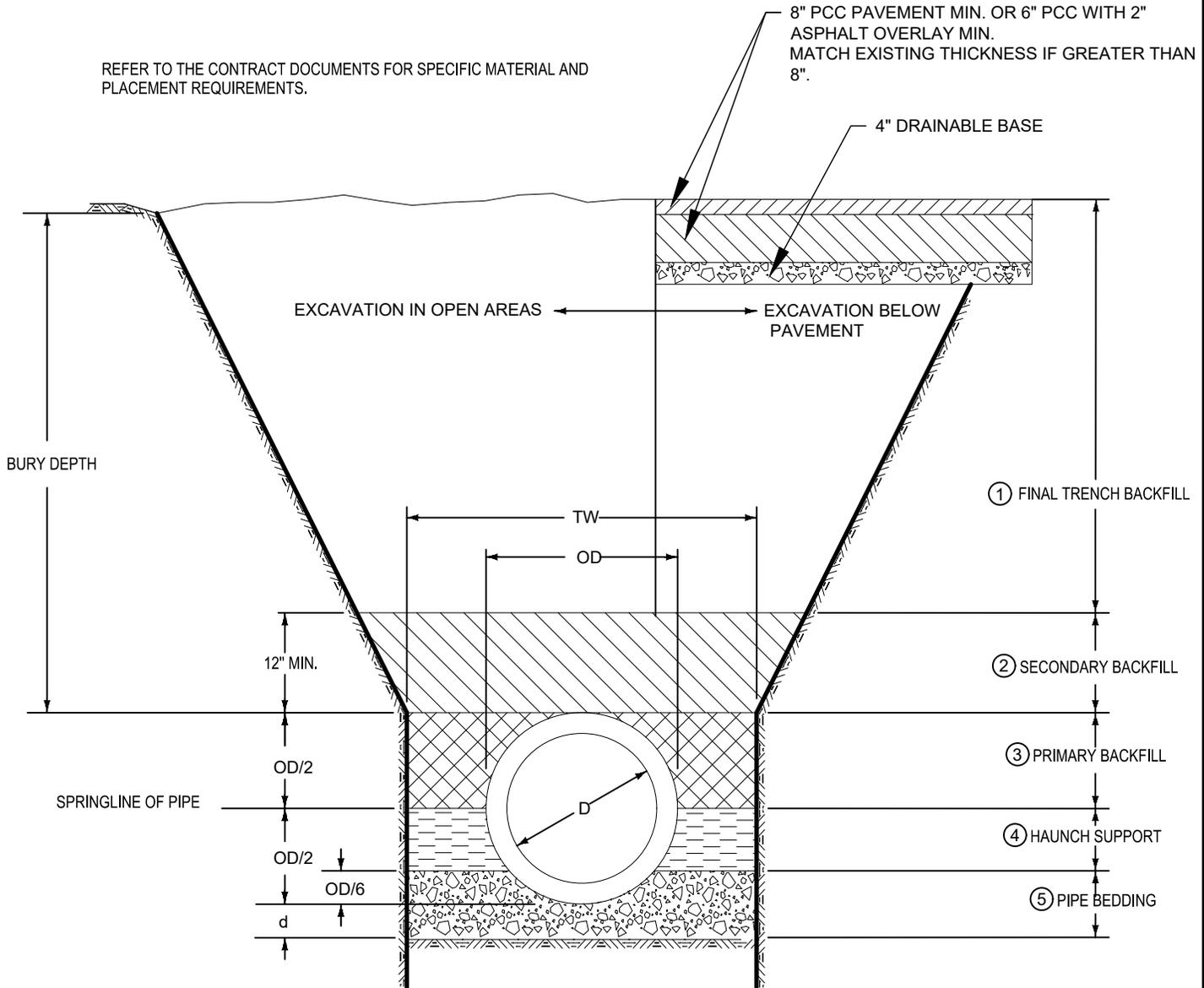
DRAWN BY A. HANEY	DATE 2/10/15
APPROVED BY A. GROSS	DATE 2/18/15
REVISED BY A. HANEY	DATE 2/10/15
SCALE NONE	

TRACER WIRE INSTALLATION PLAN



FILE No.	142
DRAWING No.	AWD0212D

REFER TO THE CONTRACT DOCUMENTS FOR SPECIFIC MATERIAL AND PLACEMENT REQUIREMENTS.



- ① BACKFILL SHALL BE CLEAN SAND OR MANUFACTURED SAND WITHIN 10 FT. OF PAVEMENT.
- ②③④ BACKFILL SHALL BE CLEAN SAND OR MANUFACTURED SAND REGARDLESS OF LOCATION.
- ⑤ IF ROCKS OR UNSUITABLE SOILS ARE ENCOUNTERED, OVER EXCAVATE AND REPLACE WITH COMPACTED ROCK OR MANUFACTURED SAND; OTHERWISE PIPE CAN BE BEDDED ON NATIVE MATERIALS.

Key

- OD = OUTSIDE DIAMETER OF PIPE
- D = INSIDE DIAMETER OF PIPE
- TW = TRENCH WIDTH AT TOP OF PIPE, MAX IS OD + 12" EACH SIDE
- d = DEPTH OF BEDDING MATERIAL BELOW PIPE, 6"

DRAWN BY A. HANEY	DATE 5-22-15
APPROVED BY AHREN GROSS	DATE 5-28-15
REVISED BY	DATE
SCALE NONE	

TRENCH DETAIL



MUSCATINE POWER & WATER

FILE No. 142

DRAWING No. AWD0212E