

NOTICE TO ALL BIDDERS

TO REPORT BID RIGGING ACTIVITIES, CALL: 1-800-424-9071

THE U.S. DEPARTMENT OF TRANSPORTATION (DOT) OPERATES THE ABOVE TOLL-FREE "HOTLINE" MONDAY THROUGH FRIDAY, 8:00 A.M. TO 5:00 P.M., EASTERN TIME. ANYONE WITH KNOWLEDGE OF POSSIBLE BID RIGGING, BIDDER COLLUSION, OR OTHER FRAUDULENT ACTIVITIES SHOULD USE THE "HOTLINE" TO REPORT SUCH ACTIVITIES.

THE "HOTLINE" IS PART OF THE DOT'S CONTINUING EFFORT TO IDENTIFY AND INVESTIGATE HIGHWAY CONSTRUCTION CONTRACT FRAUD AND ABUSE AND IS OPERATED UNDER THE DIRECTION OF THE DOT INSPECTOR GENERAL.

ALL INFORMATION WILL BE TREATED CONFIDENTIALLY, AND CALLER ANONYMITY WILL BE RESPECTED.

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PLANS, PROPOSALS AND ADDENDA

AFTER AWARD OF CONTRACT, THE LOW BIDDER WILL RECEIVE TEN (10) COMPLIMENTARY SETS OF PLANS, PROPOSALS, PROJECT Q & A FORUM, AND ADDENDA FOR FIELD AND OFFICE USE. AN ELECTRONIC COPY WILL ALSO BE PROVIDED. ANY ADDITIONAL COPIES REQUIRED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

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NOTICE TO CONTRACTORS

Bid proposals for this project will be prepared, transmitted, and received electronically by the South Dakota Department of Transportation (SDDOT) via the South Dakota Electronic Bid System until 10 A.M. Central time, on November 20, 2024, at which time the SDDOT will open bids. All bids will be checked for qualifications with results posted on the SDDOT website. The South Dakota Transportation Commission will consider all bids at a scheduled Commission meeting.

The work for which proposals are hereby requested is to be completed within the following requirement(s):

FIELD WORK COMPLETION: **MAY 29, 2026**

THE DBE GOAL FOR THIS PROJECT IS: **MBE/DBE = 1%; WBE = 4%**

WORK TYPE FOR THIS PROJECT IS: **WORK TYPE 2 OR WORK TYPE 4**

Bidders on this project will be required to comply with the federal bid requirements for ARPA and SRF. Please see instructions to bidders for requirements.

Inquiries relative to these documents can be directed to Dan Gerhardt (605-773-4067), Water and Waste Funding Program, Dept. of Agriculture & Natural Resources, Foss Building, Pierre, SD.

Bidding package for the work may be obtained at:

<http://apps.sd.gov/hc65bidletting/ebslettings1.aspx#no-back-button>

An electronic version of the most recent version of the South Dakota Standard Specifications for Roads and Bridges may be obtained at <https://dot.sd.gov/doing-business/contractors/standard-specifications/2015-standard-specifications>

The electronic bid proposal must be submitted by a valid bidder as designated by their company's <https://apps.sd.gov/HC65C2C/EBS/BidAdminAuthorizationForm.pdf>. A bidding administrator will have privileges in the SDEBS to prepare bids, submit bids, and authorize additional company employees to prepare and submit bids. Additionally, a bidding administrator will be responsible for maintaining the list of authorized bidders for the company and will have the ability to add employees, remove employees, and set-up bidder identifications and passwords within the SDEBS. Bidding Administrator authorization will remain in full force and effect until written notice of termination of this authorization is sent by an Officer of the company and received by the Department.

A bidder identification and password, coupled with a company identification previously assigned by the Department, will serve as authentication that an individual is a valid bidder for the company.

Contact information to schedule a preconstruction meeting prior to commencing with the work on this project.

Harry Johnston
5316 W 60th St N
Sioux Falls, SD 57107
Phone: 605/367-5680

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, STATE OF SOUTH DAKOTA:

Ladies / Gentlemen:

The following proposal is made on behalf of the undersigned and no others. It is in all respects fair and is made without collusion on the part of any other person, firm or corporation not appearing in the signature to this proposal.

The undersigned certifies that she / he has carefully examined the plans listed herein, the Specifications hereinbefore referred to, the Special Provisions and the form of contract, both of which are attached hereto. The undersigned further certifies that she / he has personally inspected the actual location of the work, together with the local sources of supply and that she / he understands the conditions under which the work is to be performed, or, that if she / he has not so inspected the actual location of the work, that she / he waives all right to plea any misunderstanding regarding the location of the work or the conditions peculiar to the same.

On the basis of the plans, Specifications, Special Provisions and form of contract proposed for use, the undersigned proposes to furnish all necessary machinery, tools, apparatus and other means of construction, to do all the work and furnish all the materials in the manner specified, to finish the entire project **within the contract time specified** and to accept as full compensation therefore the amount of the summation of the products of the actual quantities, as finally determined, multiplied by the unit prices bid.

The undersigned understands that the quantities as shown in the Bid Schedule are subject to increase or decrease, and hereby proposes to perform all quantities of work, as increased or decreased, in accordance with the provisions of the specifications, and subject to any applicable special provisions, and at the unit prices bid.

The undersigned understands that the "Total or Gross Amount Bid" as immediately hereinbefore set forth is not the final amount which will be paid if this proposal is accepted and the work done, but that such amount is computed for the purpose of comparison of the bids submitted and the determination of the amount of the performance bond.

The undersigned further proposes to perform all extra work that may be required on the basis provided in the specifications, and to give such work personal attention in order to see that it is economically performed.

The undersigned further proposes to both execute the contract agreement and to furnish a satisfactory performance bond, in accordance with the terms of the specifications, within twenty (20) calendar days after the date of Notice of Award from the South Dakota Department of Transportation that this proposal has been accepted.

CERTIFICATION REGARDING LOBBYING

I certify, to the best of my knowledge and belief, that: No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement. If any funds other than Federal appropriated funds have been paid or will be paid to any of the above mentioned parties, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

REV 10/11/24

INDEX OF SPECIAL PROVISIONS

PROJECT NUMBER(S): 21005951 () PCN: X06M

TYPE OF WORK: REPLACEMENT OF SANITARY SEWER CROSSINGS, INSTALLATION OF SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES AND DITCH GRADING FOR THE CITY OF COLMAN

COUNTY: MOODY

The following clauses have been prepared subsequent to the Standard Specifications for Roads and Bridges and refer only to the above described improvement, for which the following Proposal is made.

The Contractor's attention is directed to the need for securing from the Department of Environment & Natural Resources, Foss Building, Pierre, South Dakota, permission to remove water from public sources (lakes, rivers, streams, etc.). The Contractor should make his request as early as possible after receiving his contract, and insofar as possible at least 30 days prior to the date that the water is to be used.

Jim Baltzer is the official in charge of the Madison Career Center for Moody County.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Instructions for Bidders, dated 10/3/24.

Special Provision Regarding Combination Bids, dated 10/3/24.

Special Provision Regarding the City Portion for Subletting, dated 10/3/24.

State Revolving Fund General Conditions

Technical Specs

Special Provision for Steel Beam Guardrail AASHTO M 180 Designation, date 10/8/24.

Special Provision for Acknowledgment and Certification Regarding Article 3, Section 12 of the South Dakota Constitution, dated 8/24/23.

Special Provision for Buy America, dated 5/1/24.

Special Provision for Liability Insurance, dated 4/21/22.

Special Provision for Responsibility for Damage Claims, dated 4/21/22.

Special Provision for Restriction of Boycott of Israel, dated 1/31/20.

Special Provision for Contractor Administered Preconstruction Meeting, dated 12/18/19.

Fuel Adjustment Affidavit, DOT form 208 dated 7/15.

Standard Title VI Assurance, dated 3/1/16.

Special Provision For Disadvantaged Business Enterprise, dated 2/9/24.

Special Provision For EEO Affirmative Action Requirements on Federal and Federal-Aid Construction Contracts, dated 2/5/24.

Special Provision For Required Contract Provisions Federal-Aid Construction Contracts, Form FHWA 1273 (Rev. October 23, 2023), dated 10/18/23.

Required Contract Provisions Federal-Aid Construction Contracts, Form FHWA 1273 (Rev. 10/23/23).

Special Provision Regarding Minimum Wage on Federal-Aid Projects, dated 10/24/19.

Wage and Hour Division US Department of Labor Washington DC. - US Dept. of Labor Decision Number SD20230032, dated 3/10/23.

Special Provision for Supplemental Specifications to 2015 Standard Specifications for Roads and Bridges, dated 9/7/22.

Special Provision for Price Schedule for Miscellaneous Items, dated 12/6/23.

Special Provision Regarding Storm Water Discharge, dated 5/8/18.

General Permit for Storm Water Discharges Associated with Construction Activities, dated 4/1/18

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/StormWaterConstruction.aspx>

21005951 (), PCN X06M
REPLACEMENT OF SANITARY SEWER CROSSINGS, INSTALLATION OF SANITARY
SEWER SERVICES, WATER MAIN, WATER SERVICES AND DITCH GRADING FOR
THE CITY OF COLMAN
SD HIGHWAY 34

INSTRUCTIONS FOR BIDDERS

October 3, 2024

- 1) This Replacement of Sanitary Sewer Crossings, Installation of Sanitary Sewer Services, Water Main, Water Services and Ditch Grading for the City of Colman Project will be let and awarded by the South Dakota Department of Transportation.
- 2) South Dakota Department of Transportation Standard Specifications for Roads and Bridges Sections 2 and 3 regarding letting and awarding of contracts shall be followed.
- 3) Bidders submitting a bid on this project shall also submit a bid for Project NH-CR 0034(193)402, PCN 0609, Moody County. Award of these projects will be to the same bidder based on the total of the two projects.
- 4) A prospective bidder must request any explanation regarding the meaning or interpretation of the bidding package in adequate time to allow a Department reply to reach all prospective bidders before submission of final bid proposals. The bidder will contact the Department by submitting a request for explanation to the project Q&A forum.
- 5) All bid bonds shall be made out to the Department of Transportation
- 6) The contract completion date for this project will be the same as specified of Project NH-CR 0034(193)402, PCN 0609, Moody County. Any delays in completing this contract will not be a basis for an extension of the contract completion time for PCN 0609, Moody County.
- 7) ARPA requirements
This project may be partially funded using American Rescue Plan Act (ARPA) funds. As a condition of the ARPA funding guidelines, the Contractor shall meet the following minimum requirements:

Based on the “Build America, Buy America” provisions of the Infrastructure Investment and Jobs Act (IIJA) and E.O. 14005 which provide that, as appropriate and to the extent consistent with law, a preference will be provided to Contractors for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products.) The Contractor shall provide documentation of their efforts to meet the provisions of “Build America, Buy America” upon request.

A copy of the ARPA funding guidance that outlines the requirements associated with projects that utilize this funding can be found at the following link:

<https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds/>

8) SRF requirements

Bidders on this Replacement of Sanitary Sewer Crossings, Installation of Sanitary Sewer Services, Water Main, Water Services and Ditch Grading Project will be required to comply with the: Federal Bid Requirements & Inclusions for Projects Involving Disadvantaged Business Enterprise (DBE) Program

DANR State Revolving Funds (SRF) General Conditions.

Goals for contract participation for DBE/MBE are 1% and WBE are 4%. DANR will not authorize the approval to award the contract until all forms are submitted and approved by DANR. Failure to submit all necessary documentation could affect the project SRF eligibility. All forms contained in the State Revolving Fund (SRF) General Conditions must be completed and submitted to DANR within 10 days of the bid proposal opening.

In addition to the above listed Federal requirement (Item 7) for work on this Water & Sanitary Sewer Upgrades Project, bidders will be required to comply with the President's Executive Order Nos. 11246, as amended, 11518 and 11625 as amended and the regulations in 41 CFR Part 60 -1.4(b). The requirements for bidders and contractors under these orders are explained in the general conditions.

The low responsive bidder will be required to certify to compliance with the American Iron and Steel provisions of the Consolidated Appropriations Act of 2014. This certification form may be found on page AIS 21-22 of the State Revolving Fund (SRF) General Conditions and must be included in the bid proposal.

Please be advised that waivers or exemptions from the American Iron and Steel provisions that cite International Trade Agreements **DO NOT** comply with the Consolidated Appropriations Act of 2014 as it applies to the SRF programs. Claims from suppliers that the American Iron and Steel provisions does not apply to certain products based on the International Trade Agreement exemptions of the Consolidated Appropriations Act of 2014 will not be accepted.

Davis Bacon and related acts wages apply to this project. All provision relative those acts must be met. (see pages 213 & 214 of this proposal).

The low responsive bidder must assure compliance with the requirements of Public Law 115-232 Section 889, Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. Contractors must assure that telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities), and 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) WILL NOT be supplied for the project.

Inquiries relative to these documents can be directed to Dan Gerhardt (605-773-4067), Environmental Funding Program, Dept. of Agriculture & Natural Resources, Foss Building, Pierre, SD.

- 9) After award of contract, the Contractor shall furnish satisfactory proof of coverage of insurance. Copies of Certificates of Insurance shall be furnished to the Department of Transportation AND City of Colman. The Contractor will be required to provide a performance bond in a sum equal to the total amount of the contract, in a form acceptable to the City. The performance bond shall remain in effect for a period of one year after the City considers the contract to be completed and accepted.
- 10) The contractor is required to schedule and conduct a preconstruction meeting that shall be held jointly with the preconstruction meeting for the state contract. Additionally, the contractor is responsible for contacting the city for a list of required submittals upon receiving Notice of Award of the contract.
- 11) Construction engineering for this contract will be performed by the City of Colman.
- 12) Payment for this Utilities project will be made to the Contractor by the City of Colman.

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION REGARDING
COMBINATION BIDS**

**21005951 (), PCN X06M
REPLACEMENT OF SANITARY SEWER CROSSINGS, INSTALLATION
OF SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES
AND DITCH GRADING FOR THE CITY OF COLMAN
MOODY COUNTY**

OCTOBER 3, 2024

Bidders submitting a bid on this project **MUST ALSO** submit a bid on project:

NH-CR 0034(193)402, PCN 0609
SD HIGHWAY 34
GRADING, PCC SURFACING, CURB &
GUTTER, SIDEWALK, LIGHTING
MOODY COUNTY

Award of both projects will be to the same bidder based on the total of the two projects.

Work on PCN (0609) CANNOT be used to meet the DBE Goal established for this project.

After award, the contracts will be administered as entirely separate contracts.

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION REGARDING
THE CITY PORTION FOR SUBLETTING**

**21005951 (), PCN X06M
MOODY COUNTY**

OCTOBER 3, 2024

This project is let in combination with State Project Number NH-CR 0034(193)402, PCN 0609. The provisions of section 8.1 of the specifications requiring the Contractor to perform work amounting to not less than 30% of the total contract cost with the Contractor's own organization will not apply to the work on this contract.

* * * *

STATE REVOLVING FUND (SRF)

GENERAL CONDITIONS

with

DAVIS-BACON

&

American Iron and Steel Provisions

South Dakota
Department of Agriculture
and Natural Resources

These provisions must be included in the specifications for all Clean Water SRF
and Drinking Water SRF projects.

July 2021

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GUIDANCE FOR UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES REQUIREMENTS OF 40 CFR §33.

A. REQUIREMENTS

1. The recipient and prime contractor will exercise good faith efforts to attract and utilize small, minority, and women's business enterprises primarily through outreach, recruitment, and race/gender neutral activities; at a minimum, fulfillment of the six affirmative steps set forth below:
 - a. Including disadvantaged businesses on solicitation lists;
 - b. Assuring that disadvantaged businesses are solicited whenever they are potential sources;
 - c. Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation by disadvantaged businesses;
 - d. Establishing delivery schedules, when the requirements of the work permit, which will encourage participation by disadvantaged businesses;
 - e. Using the services of the Small Business Administration and the Office of Minority Business Enterprise of the U.S. Department of Commerce, as appropriate; and
 - f. Require a. through e. to be taken if subcontracts are awarded.

B. FAIR SHARE OBJECTIVE

1. The fair share objective for this project is 1 % MBE's and 4 % WBE's.

C. DEFINITIONS

1. Disadvantaged Business Enterprise (DBE) is a business concern which meets the qualifications of a Minority Business Enterprise (MBE), Women's Business Enterprise (WBE), Small Business (SBE), or Small Business in a Rural Area (SBRA).
2. Minority Business Enterprise (MBE) is a business concern which is:
 - a. Certified as socially and economically disadvantaged by the Small Business Administration;
 - (1) Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities.
 - (2) Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system is impaired due to diminished capital and credit opportunities, as compared to others in the same business area who are not socially disadvantaged. In determining the degree of diminished credit and capital opportunities, the Small Business Administration shall consider, but not be limited to, the assets and net worth of such socially disadvantaged individuals. Individuals who certify that they are members of named groups (Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans), are to be considered socially and economically disadvantaged. Economically and socially disadvantaged individuals are deemed to include women.
 - b. Certified as a minority business enterprise by a State or Federal agency; and

c. An independent business concern which is at least 51 percent owned and controlled by minority group member(s).

(1) A minority group member is an individual who is a citizen of the United States and one of the following:

(a) Black American;

(b) Hispanic American (with origins from Puerto Rico, Mexico, Cuba, South or Central America)

(c) Native American (American Indian, Eskimo, Aleut, native Hawaiian); or

(d) Asian-Pacific American (with origins from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, Taiwan or the Indian subcontinent).

(2) In order to satisfy this third criteria of the MBE definition, the minority ownership's interest must be real, substantial and continuing. Such interest is characterized by:

(a) Risk of loss/share of profit commensurate with the proportional ownership; and

(b) Receipt of the customary incidents of ownership, such as compensation (i.e., salary and other personnel compensation).

(3) A minority owner must have and exercise control of the business decisions. Characteristics of control include, but are not limited to:

(a) Authority to sign bids and contracts;

(b) Decisions in price negotiations;

(c) Incurring liabilities for the firm;

(d) Final staffing decisions;

(e) Policy-making; and

(f) General company management decisions.

(4) Only those firms performing a useful business function according to custom and practice in the industry, are qualified as MBEs. Acting merely as a passive conduit of funds to some other firm where such activity is unnecessary to accomplish the project does not constitute a "useful business function according to custom and practice in the industry." The purpose of this approach is to discourage the use of MBE "fronts" and limit the creation of an artificial supplier and broker marketplace.

3. Women's Business Enterprise (WBE) is a business which is certified as such by a State or Federal agency, or which meets the following definition:

"A women's business enterprise is an independent business concern which is at least 51 percent owned by a woman or women, who also control and operate it. Determination of whether a business is at least 51 percent owned by a woman or otherwise qualified WBE which is 51 percent owned by a married woman in a community property State will not be disqualified because her husband has a 50 percent interest in her share. Similarly, a business which is 51 percent owned by a married man and 49 percent owned by an

unmarried woman will not become a qualified WBE by virtue of his wife's 50 percent interest in his share of the business."

As in the case of a MBE, only United States citizens will be deemed to be WBEs. Similar to the MBE criteria, WBE should meet the criteria cited in subparagraphs B.1.c.(2), (3), and (4).

4. Fair Share or Fair Share Objective A fair share or a fair share objective is an amount of funds reasonably commensurate with the total project funding and the availability of qualified MBEs and WBEs, taking into account experience on EPA-funded projects and other comparable projects in the area. A fair share objective does not constitute an absolute requirement, but a commitment on the part of the bidder to exercise good faith efforts as defined in this section to use MBEs and WBEs to achieve the fair share objective.
5. Small Business (SBE) Any business entity, including its affiliates, that is independently owned and operated, and not dominant in its field of operations in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards set forth in 13 CFR Part 121.
6. Small Business in a Rural Area A small business in a rural area (SBRA) is a business entity meeting the definition of a small business, and is located and conducts its principal operations in a geographical area (county) listed in the Small Business Administration's Listing of Non-Metropolitan Counties by State.
7. Recipient A party receiving SRF financial assistance.
8. Project The scope of work for which an SRF loan is awarded.
9. Bidder A party seeking to obtain a contract with a recipient through a competitive, advertised, sealed bid process.
10. Offeror A party seeking to obtain a contract with a recipient through a negotiative procurement process.
11. Prime Contractor A party that has obtained a contract with a recipient through a competitive, advertised, sealed bid process.
12. Good Faith Efforts Good faith efforts by a recipient, prime contractor, and/or bidder/offeror means efforts to attract and utilize DBEs primarily through outreach, recruitment, and race/gender neutral activities. The following are examples of activities to assist recipients, prime contractors and/or bidders/offerors to comply with good faith efforts.
 - a. Include qualified DBEs on solicitation lists.
 - (1) Maintain and update a listing of qualified DBEs that can be solicited for supplies, construction and/or services.
 - (2) Provide listings to all interested parties who requested copies of the bidding or proposing documents.
 - (3) Contact appropriate sources within your geographic area and State to identify qualified DBEs for placement on your minority and women's business listings.
 - (4) Utilize other DBE listings such as those of the State's Minority Business Office, the Small Business Administration, Minority Business Development Agency, US EPA- Office of Small Business Programs and the Department of Transportation.
 - (5) Have the State environmental agency personnel review this solicitation list.

- b. Assure that DBEs are solicited.
 - (1) Conduct meetings, conferences, and follow-ups with DBEs, small, minority and/or women's business associations, minority media, etc., to inform these groups of opportunities to provide supplies, services, and construction.
 - (2) MBE Utilization is facilitated if the recipient or prime contractor advertises through the minority media. Such advertisements may include, but are not limited to, contracting and subcontracting opportunities, hiring and employment, or any other matter related to the project.
 - (3) Conduct pre-bid, pre-solicitation, and post-award conferences to ensure that consultants, suppliers, and builders solicit DBEs.
 - (4) Provide bidders and offerors with listings of qualified DBEs and establish that a fair share of contracts/procurements should be awarded to these groups.
 - (5) Advertise in general circulation, trade publications, State agency publications of identified source, disadvantaged business focused media, etc., concerning contracting opportunities on your projects. Maintain a list of disadvantaged business-focused publications that may be utilized to solicit MBEs or WBEs.
 - (6) Provide interested DBEs with adequate information about plans, specifications, timing and other requirements of the proposed projects.
 - (7) Provide DBE trade organizations with succinct summaries of solicitations.
 - (8) Notify DBEs of future procurement opportunities so that they may establish bidding solicitations and procurement plans.
- c. Divide total requirements when economically feasible, into small tasks or quantities to permit maximum participation of DBEs.
 - (1) Perform an analysis to identify portions of work that can be divided and performed by qualified DBEs.
 - (2) Scrutinize the elements of the total project to develop economically feasible units of work that are within the bonding range of DBEs.
 - (3) Analyze bid packages for compliance with the good faith efforts to afford DBEs maximum participation.
- d. Establish delivery schedules, where requirements of the work permit, which will encourage participation by DBEs.
 - (1) Consider lead times and scheduling requirements often needed by DBE participation.
 - (2) Develop realistic delivery schedules which may provide for greater DBE participation.
- e. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the US Department of Commerce, as appropriate.
 - (1) Use the services of outreach programs sponsored by the Minority Business Development Agency and/or the Small Business Administration to recruit bona fide firms for placement on DBEs' bidders lists to assist these firms in the development of bid packaging.

- (2) Seek out Minority Business Development Centers (MBDCs) to assist recipients and prime contractors in identifying MBEs for potential work opportunities on this project.

D. ADDITIONAL CONTRACT PROVISIONS

1. The prime contractor must pay its subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the owner.
2. The prime contractor must notify the owner in writing prior to any termination of a DBE subcontractor for convenience.
3. If a DBE subcontractor fails to complete work under the subcontract for any reason, the prime contractor must employ the good faith efforts if soliciting a replacement subcontractor, even if the fair share objectives have already been achieved.
4. Each procurement contract signed by an EPA financial recipient, including those for an identified loan under an EPA financial assistance agreement capitalizing a revolving loan fund, must include the following term and condition:

The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

E. REPORTING

1. Bidders/offerors shall demonstrate compliance with good faith efforts in order to be deemed responsible. To demonstrate compliance, the "DBE Subcontractor Solicitation Sheet" (pg. DBE - 6) shall be submitted as part of its bid or proposal package. Information shall be included for each DBE subcontractor contacted by the bidder/offeror, not just those used to meet the fair share objective.
2. The prime contractor must distribute DBE Program Subcontractor Participation Form (Form 6100-2) to all of its DBE subcontractors. The subcontractors can submit completed forms to the South Dakota Department of Agriculture and Natural Resources, Water Resources Assistance Program.
3. The prime contractor must have its DBE subcontractors complete DBE Program Subcontractor Performance Form (Form 6100-3) and should include completed forms in its bid or proposal package.
4. The prime contractor must complete DBE Program Subcontractor Utilization Form (Form 6100-4) which should be submitted as part of its bid or proposal package.
5. Form 6100-3 and Form 6100-4 must be submitted by the apparent low-bidder within ten calendar days of the bid opening. Failure to submit this information will be viewed as a non-responsive bid.

DBE SUBCONTRACTOR SOLICITATION INFORMATION

PROJECT NAME:

| Subcontractor Name and Telephone Number | MBE or WBE | Description of Work Offered | Date of Phone Follow-up & Person Contacted | Amount of Bid or Reason for not Quoting | Bid Accepted or Rejected? Include Reason for Rejection |
|-----------------------------------------|------------|-----------------------------|--------------------------------------------|-----------------------------------------|--------------------------------------------------------|
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This information is true and correct to the best of my knowledge

Contractor Name, Address and Telephone Number _____

This form shall be submitted as part of the contractor's bid.

Signature _____ Title _____ Date _____

Disadvantaged Business Enterprise
Program DBE Subcontractor
Participation Form

| | |
|------------------------------------------|----------------------|
| NAME OF SUBCONTRACTOR¹ | PROJECT NAME |
| ADDRESS | CONTRACT NO. |
| TELEPHONE NO. | EMAIL ADDRESS |
| PRIME CONTRACTOR NAME | |

Please use the space below to report any concerns regarding the above SRF-funded project (e.g., reason for termination by prime contractor, late payment, etc.).

| CONTRACT ITEM NO. | ITEM OF WORK OR DESCRIPTION OF SERVICES RECEIVED FROM THE PRIME CONTRACTOR | AMOUNT SUBCONTRACTOR WAS PAID BY PRIME CONTRACTOR |
|------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| | | |
| Subcontractor Signature | | |
| Title/Date | | |

¹Subcontractor is defined as a company, firm, Joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an SRF award of financial assistance.

**Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form**

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|--|
| NAME OF SUBCONTRACTOR ¹ | | PROJECT NAME | |
| ADDRESS | | BID/PROPOSAL NO. | |
| TELEPHONE NO. | | E-MAIL ADDRESS | |
| PRIME CONTRACTOR NAME | | | |
| CONTRACT ITEM NO. | ITEM OF WORK OR DESCRIPTION OF SERVICES BID TO PRIME | PRICE OF WORK SUBMITTED TO PRIME CONTRACTOR | |
| | | | |
| Currently certified as an MBE or WBE under EPA's DBE Program? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| _____ Signature of Prime Contractor | | _____ Date | |
| _____ Print Name | | _____ Title | |
| _____ Signature of Subcontractor | | _____ Date | |
| _____ Print Name | | _____ Title | |

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an SRF award of financial assistance.

**Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form**

| | |
|--------------------------------------|-----------------------|
| BID/PROPOSAL NO. | PROJECT NAME |
| NAME OF PRIME BIDDER/PROPOSER | E-MAIL ADDRESS |
| ADDRESS | |
| TELEPHONE NO. | FAX NO. |

| The following subcontractors will be used on this project : | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------|-----------------------------------------------------|
| COMPANY NAME, ADDRESS, PHONE NUMBER, AND E-MAIL ADDRESS | TYPE OF WORK TO BE PERFORMED | ESTIMATED DOLLAR AMOUNT | TYPE OF FIRM? (Print MBE, WBE or None below) |
| | | | |
| I certify under penalty of perjury that the forgoing statements are true and correct. 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) | | | |
| _____ Signature of Prime Contractor | | _____ Date | |
| _____ Print Name | | _____ Title | |

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

FORM 6 100-4 (DBE Subcontractor Utilization Form)

**EQUAL EMPLOYMENT OPPORTUNITY and AFFIRMATIVE ACTION REQUIREMENTS on
FEDERALLY ASSISTED CONSTRUCTION CONTRACTS**

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

1. The Offer'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 as follows:

| | |
|--------------------------------------------------|-------------|
| Goals for minority participation in each trade - | <u>0.8%</u> |
| (See Appendix A for goals by county) | |
| Goals for female participation in each trade - | <u>6.9%</u> |

As used in this notice, and in the contract resulting from this solicitation, the "covered area" is Moody County.

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 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 for the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed. A form is provided on page EEO - 7 that the contractor may use for this purpose.

This notice shall be included in, and shall be a part of, all solicitations for offers and bids on all federal and federally assisted construction contracts or subcontracts.

EQUAL OPPORTUNITY CLAUSES

The Equal Opportunity Clause published at 41 CFR Part 60-1.4(b) is required to be included in, and is part of, all nonexempt federally assisted construction contracts and subcontracts. The Equal Opportunity Clause shall be considered to be a part of every contract and subcontract required by the regulations in this part to include such a clause, whether or not it is physically incorporated in such contracts.

In addition to the clauses described above, all federal contracting officers, all applicants, and all non-construction contractors, as applicable, shall include the specifications set forth in this section in all federal and federally assisted construction contracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part and in construction subcontracts in excess of \$10,000 necessary in whole or in part to the performance of non-construction Federal contracts and subcontracts covered under the Executive Order.

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 origins 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 Subcontinent, or the Pacific Islands);
 - (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 60-4.5) 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 (7)(a) 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 employees 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 toward 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 non-working 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's 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 therefor, 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 efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the areas 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 sources compiled under (7)(b) 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 on-site 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 tests 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 non-segregated 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 supervisor's 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 (7)(a) 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 (7)(a) through (p) of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has 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 under-utilized).

10. The contractor shall not use the goals and timetables of 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).

APPENDIX A

GOALS FOR MINORITY PARTICIPATION ON EACH TRADE

| Counties | Goal |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Aurora, Beadle, Brookings, Brule, Charles Mix, Davison, Douglas, Gregory, Hand, Hanson, Hutchinson, Jerauld, Kingsbury, Lake, Lincoln (excluding Sioux Falls), McCook, Miner, Moody, Sanborn, Turner | 0.8 |
| Bon Homme, Clay, Minnehaha (including all of Sioux Falls), Union, Yankton | 1.2 |
| Brown, Clark, Codington, Day, Deuel, Edmunds, Faulk, Grant, Hamlin, McPherson, Marshall, Roberts, Spink | 1.3 |
| Meade, Pennington | 3.4 |
| Bennett, Buffalo, Butte, Campbell, Corson, Custer, Dewey, Fall River, Haakon, Harding, Hughes, Hyde, Jackson, Jones, Lawrence, Lyman, Mellette, Perkins, Potter, Shannon, Stanley, Sully, Todd, Tripp, Walworth, Ziebach | 7.9 |

CONTRACTOR'S NAME, ADDRESS & TELEPHONE NUMBER

Return to:

Joan Ford, Regional Director
 US Department of Labor
 Federal Building, Room 840
 525 South Griffin St.
 Dallas, TX 75202

Contractor Employer ID Number: _____

CONTRACT INFORMATION

PROJECT AND LOCATION:

| | | | |
|---------------------------|----------------------|---------------------------|-----------------------------------|
| PROJECT AND LOCATION: | | | |
| Dollar Amount of Contract | Estimated Start Date | Estimated Completion Date | Contract No. |
| | | | |
| | | | Geographical Area (County, State) |
| | | | |

NOTIFICATION OF SUBCONTRACTS AWARDED (>\$10,000)

| Subcontractor's Name Address, and Phone Number | Employer ID Number of Subcontractor | Estimated \$ Amount of Subcontract | Estimated Start Date | Estimated Completion Date |
|------------------------------------------------|-------------------------------------|------------------------------------|----------------------|---------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

A. INSTRUCTIONS

Under Executive Order 12549, an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program, or a sub-agreement thereunder for \$25,000 or more. The status of prospective individuals or organizations can be checked at:

<http://epls.arnet.gov/>

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or sub-agreement participant thereunder must complete the attached certification or provide an explanation why they cannot complete the certification. For further details, see 40 CFR 32.510, Participants Responsibilities.

B. WHERE TO SUBMIT

A prospective prime contractor must submit a completed certification or explanation to the project owner for the project. Each prospective subcontractor must submit a completed certification or explanation to the prime contractor for the project.

C. HOW TO OBTAIN FORMS

This form may be reproduced as necessary. If needed, additional forms may be obtained from the Department of Agriculture and Natural Resources.

SRF Project Number

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 its 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 judgement 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 for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

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

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

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

PROHIBITION AGAINST LISTED VIOLATED FACILITIES

A. REQUIREMENTS

- (1) To comply with all the requirements of section 114 of the Clean Air Act, as amended (42 U.S.C. 1857, et seq., as amended by Pub. L. 92-604) and section 308 of the Clean Water Act (33 U.S.C. 1251, as amended), respectively, which relate to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this contract.
- (2) That no portion of the work required by this prime contract will be performed in a facility listed on the Environmental Protection Agency list of violating facilities on the date when this contract was awarded unless and until the EPA eliminates the name of such facility or facilities from the listing.
- (3) That the best efforts to comply with clean air and clean water standards at the facilities in which the contract is being performed.
- (4) To insert the substance of the provisions of this clause, including this paragraph (4), in any nonexempt subcontract.

B. DEFINITIONS

- (1) Air Act means the Clean Air Act, as amended (42 U.S.C. 1857 et seq.).
- (2) Water Act means the Clean Water Act, as amended (33 U.S.C. 1251 et seq.).
- (3) Clean Air Standards means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted under the Air Act or Executive Order 11738, an applicable implementation plan as described in section 110 (d) of the Air Act (42 U.S.C. 1857c-5(d)), an approved implementation procedure or plan under section 111 (c) or section 111(d), or an approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 1857c-7(d)).
- (4) Clean Water Standards means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated under the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by a local government to ensure compliance with pretreatment regulations as required by section 307 of Water Act (33 U.S.C. 1317).
- (5) Compliance means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency in accordance with the requirements of the Air Act or Water Act and regulations.
- (6) Facility means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by a contractor or subcontractor, to be used in the performance of a contract or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are located in one geographical area.

WILLIAMS-STEIGER OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

A. AUTHORITY

- (1) The contractor is subject to the provisions of the Williams-Steiger Occupational Safety and Health Act of 1970.
- (2) These construction documents and the joint and several phases of construction hereby contemplated are to be governed, at all times, by applicable provisions of the Federal law(s) , including but not limited to the latest amendment of the following:
 - a. Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 94-596;
 - b. Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;
 - c. Part 1926 - Safety and Health Regulations for Construction, Chapter XVII of Title 29, Code of Federal Regulations.

B. SAFETY AND HEALTH PROGRAM REQUIREMENTS

- (1) This project, its prime contractor and its subcontractors, shall at all times be governed by Chapter XVII of Title 29, Code of Federal Regulations, Part 1926 - Safety and Health Regulations for Construction (29 CFR 22801), as amended to date.
- (2) To implement the program and to provide safe and healthful working conditions for all persons, general project safety meetings will be conducted at the site at least once each month during the course of construction, by the construction superintendent or his/her designated safety officer. Notice of such meeting shall be issued not less than three (3) days prior, stating the exact time, location, and agenda to be included. Attendance by the owner, architect, general foreman, shop steward(s), and trades, or their designated representatives, witnessed in writing as such, shall be mandatory.
- (3) To further implement the program, each trade shall conduct a short gang meeting, not less than once a week, to review project safety requirements mandatory for all persons during the coming week. The gang foreman shall report the agenda and specific items covered to the project superintendent, who shall incorporate these items in his/her daily log or report.
- (4) The prime contractor and all subcontractors shall immediately report all accidents, injuries, or health hazards to the owner and architect, or their designated representatives, in writing. This shall not obviate any mandatory reporting under the provisions of the Occupational Safety and Health Act of 1970.
- (5) This program shall become a part of the contract documents and the contract between the owner and prime contractor, prime contractor and all subcontractors, as though fully written therein.

DISCOVERY OF ARCHAEOLOGICAL AND OTHER HISTORICAL ITEMS

In the event of an archaeological find during any phase of construction, the following procedure will be followed:

- (1) Construction shall be halted, with as little disruption to the archaeological site as possible.
- (2) The Contractor shall notify the Owner who shall contact the State Historical Preservation Officer.
- (3) The State Historical Preservation Officer may decide to have an archaeologist inspect the site and make recommendations about the steps needed to protect the site, before construction is resumed.
- (4) The entire event should be handled as expediently as possible in order to hold the loss in construction time to a minimum while still protecting archaeological finds.

A similar procedure should be followed with regard to more recent historical resources. Should any artifacts, housing sites, etc., be uncovered, the same procedure should be followed as for an archaeological find.

In the event archaeological/historical data are evaluated to meet National Register criteria, the Advisory Council on Historic Preservation may be notified and asked to comment by the South Dakota Department of Agriculture and Natural Resources.

DAVIS-BACON AND RELATED ACTS

LABOR STANDARDS

Contractors performing work on construction projects which have been provided assistance through the State Revolving Fund must fulfill the requirements of the Labor Standards Provisions for federally assisted construction contracts. These standards are located at the end of this section.

WEEKLY CONTRACTOR PAYROLLS

Each week as work progresses, the contractor must submit to the Owner a copy of all weekly payrolls and required attachments stipulated therein. Sample suggested payrolls may be obtained from the Owner upon request. All weekly payrolls shall contain or have attached the following:

1. Name of each employee and the last four digits of the social security number.
2. Classification of employees (same as shown on wage determination).
3. Rate of pay not less than that shown on the wage determination.
4. Hours worked each day and total for each week for each employee.
5. All deductions made.
6. Net amount paid to employee.
7. The following certification:

"I certify that the payroll is correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the Wage Determination decision of the Secretary of Labor and that the classification set forth for each laborer or mechanic conform with the work he performs."

(Signature)

(Title)

COMPLIANCE WITH THE COPELAND (ANTI-KICKBACK) ACT

The following anti-kickback statement must be submitted with each set of weekly payrolls:

"I, (name of signatory party), (title), do hereby state: That I pay or supervise the payment of the persons employed by (contractor or subcontractor) on the (work or building); that during the payroll period commencing on the _____ day of _____, 20____, and ending the _____ day of _____, 20____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly from the full weekly wages earned by any person, other than permissible deductions, as defined in Regulations, Part 3 (CFR Part 3) issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948; 63 Stat. 108; 72 Stat. 967; and 40 U.S.C. 276c), and described below: (Paragraph describing deductions, if any)"

(Signature)

(Title)

All prime contractors shall include the wage determination and all the labor standards provisions in all subcontracts as herein specified.

The Contractor shall make employment records available for inspection by authorized representatives of the State of South Dakota and the Department of Labor, and will permit employees to be interviewed during working hours by these representatives. Payroll records will be maintained during the course of the work by the Prime Contractor, including a copy of the payroll of each Subcontractor and they shall be preserved for a period of three years thereafter.

Each monthly engineering estimate must be accompanied by the following certificate executed by each Prime Contractor employing mechanics and laborers at the site on work in which the Federal government is to participate:

Principal Contractor _____

Project Name _____

Project No. _____

I, _____, as official representative of the above named principal contractor do hereby certify as follows:

- All Labor Standards Requirements have been fulfilled by principal contractor and all subcontractors under this contract; or
- There is an honest dispute regarding the required provisions.

Explanation: _____

(Signature) (Title)

In the event of a violation of the Labor Standards provisions of the contract by the Prime Contractor or any Subcontractor, the owner may, after notice to the Contractor, suspend further payments or proceed to terminate the contract as provided in the Labor Standards section of the Contract.

FEDERAL LABOR STANDARDS PROVISIONS

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.

A.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 payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act(29CFR 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 29 CFR 5.5(a)(1)(iv); 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 29 CFR Part 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 29 CFR Part 5.5(a)(1)(ii) 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) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. EPA shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

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 EPA or its designee 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 EPA or its designee to the Administrator of the Wage and Hour Division, Employment standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise EPA or its designee or will notify EPA or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)
- (c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and EPA or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), EPA or its designee shall refer the questions, including the views of all interested parties and the recommendation of EPA or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise EPA or its designee or will notify EPA or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control Number 1215-0140.)
- (d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, 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. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding.

EPA or its designee 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, EPA or its designee 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. EPA or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. Payrolls and basic records

(i) Basic records relating thereto shall be maintained by the contractor during the course of the work 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 there 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. Certified weekly payrolls shall contain the name and last four digits of the social security number. 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 the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB control Numbers 1215-0140 and 1215-0017.)

(ii)(a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to EPA or its designee if the agency is a party to the contract, but if the agency is not such party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to EPA or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of management and Budget under OMB Control Number 1215-0149.)

(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:

That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.59(a)(3)(i) and that such information is correct and complete;

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 29 CFR Part 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 EPA or its designee 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, EPA or its designee 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 Part 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, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, 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 Bureau of Apprenticeship and Training 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 prevail for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, 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 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 and 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 will insert in any subcontracts the clauses contained in 29 CFR 5.5 (a)(1) through (10) and such other clauses as EPA or its designee 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 Part 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 (or any of its subcontractors) and EPA or its designee, 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) or to be awarded EPA contracts or participate in EPA programs pursuant to 24 CFR Part 24.
- (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) or to be awarded EPA contracts or participate in EPA programs pursuant to 24 CFR Part 24.
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part "Whoever, for the purpose of...influencing in any way the action of such Administration...makes, utters or publishes any statement, knowing the same to be false...shall be fined not more than \$5,000 or imprisoned not more than two years or both."

11. **Complaints, Proceedings, or Testimony by Employees.** No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

- B. **Contract Work Hours and Safety Standards Act.** As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

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, whichever is greater.

Violation: liability for unpaid wages: liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore 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 subparagraph (1) of this paragraph 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 subparagraph (1) of this paragraph.

Withholding for unpaid wages and liquidated damages. EPA or its designee 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 contract 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 subparagraph (2) of this paragraph.

Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph 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 subparagraphs (1) through (4) of this paragraph.

C. **Health and Safety**

No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54,83 Stat.96).

The Contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Administrator of Agriculture and Natural Resources or the Secretary of Labor shall direct as a means of enforcing such provisions.



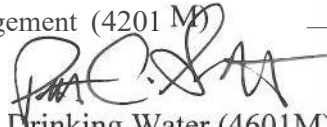
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MARCH 20 2014

OFFICE OF WATER

MEMORANDUM

SUBJECT: Implementation of American Iron and Steel provisions of P.L. 113-76, Consolidated Appropriations Act, 2014

FROM: (Andrew D. Sawyers, Director
Office of Wastewater Management (4201 M) _____
Peter C. Grevatt, Director 
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors
Regions I- X

P.L. 113-76, Consolidated Appropriations Act, 2014 (Act), includes an "American Iron and Steel (AIS)" requirement in section 436 that requires Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients to use iron and steel products that are produced in the United States for projects for the construction, alteration, maintenance, or repair of a public water system or treatment works if the project is funded through an assistance agreement executed beginning January 17, 2014 (enactment of the Act), through the end of Federal Fiscal Year 2014.

Section 436 also sets forth certain circumstances under which EPA may waive the AIS requirement. Furthermore, the Act specifically exempts projects where engineering plans and specifications were approved by a State agency prior to January 17, 2014.

The approach described below explains how EPA will implement the AIS requirement. The first section is in the form of questions and answers that address the types of projects that must comply with the AIS requirement, the types of products covered by the AIS requirement, and compliance. The second section is a step-by-step process for requesting waivers and the circumstances under which waivers may be granted.

Implementation

The Act states:

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 or 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”) finds 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 quality; 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.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out

the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

The following questions and answers provide guidance for implementing and complying with the AIS requirements:

Project Coverage

1) What classes of projects are covered by the AIS requirement?

All treatment works projects funded by a CWSRF assistance agreement, and all public water system projects funded by a DWSRF assistance agreement, from the date of enactment through the end of Federal Fiscal Year 2014, are covered. The AIS requirements apply to the entirety of the project, no matter when construction begins or ends. Additionally, the AIS requirements apply to all parts of the project, no matter the source of funding.

2) Does the AIS requirement apply to nonpoint source projects or national estuary projects?

No. Congress did not include an AIS requirement for nonpoint source and national estuary projects unless the project can also be classified as a 'treatment works' as defined by section 212 of the Clean Water Act.

3) Are any projects for the construction, alteration, maintenance, or repair of a public water system or treatment works excluded from the AIS requirement?

Any project, whether a treatment works project or a public water system project, for which engineering plans and specifications were approved by the responsible state agency prior to January 17, 2014, is excluded from the AIS requirements.

4) What if the project does not have approved engineering plans and specifications but has signed an assistance agreement with a CWSRF or DWSRF program prior to January 17, 2014?

The AIS requirements do not apply to any project for which an assistance agreement was signed prior to January 17, 2014.

5) What if the project does not have approved engineering plans and specifications, but bids were advertised prior to January 17, 2014 and an assistance agreement was signed after January 17, 2014?

If the project does not require approved engineering plans and specifications, the bid advertisement date will count in lieu of the approval date for purposes of the exemption in section 436(f).

6) What if the assistance agreement that was signed prior to January 17, 2014, only funded a part of the overall project, where the remainder of the project will be funded later with another SRF loan?

If the original assistance agreement funded any construction of the project, the date of the original assistance agreement counts for purposes of the exemption. If the original assistance agreement was only for planning and design, the date of that assistance agreement will count for purposes of the exemption only if there is a written commitment or expectation on the part of the assistance recipient to fund the remainder of the project with SRF funds.

7) What if the assistance agreement that was signed prior to January 17, 2014, funded the first phase of a multi-phase project, where the remaining phases will be funded by SRF assistance in the future?

In such a case, the phases of the project will be considered a single project if all construction necessary to complete the building or work, regardless of the number of contracts or assistance agreements involved, are closely related in purpose, time and place. However, there are many situations in which major construction activities are clearly undertaken in phases that are distinct in purpose, time, or place. In the case of distinct phases, projects with engineering plans and specifications approval or assistance agreements signed prior to January 17, 2014 would be excluded from AIS requirements while those approved/signed on January 17, 2014, or later would be covered by the AIS requirements.

8) What if a project has split funding from a non-SRF source?

Many States intend to fund projects with “split” funding, from the SRF program and from State or other programs. Based on the Act language in section 436, which requires that American iron and steel products be used in any project for the construction, alteration, maintenance, or repair of a public water system or treatment works receiving SRF funding between and including January 17, 2014 and September 30, 2014, any project that is funded in whole or in part with such funds must comply with the AIS requirement. A “project” consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of SRF projects into separate and smaller contracts or assistance agreements to avoid AIS coverage on some portion of a

larger project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in separate phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreement for SRF and State or other funding would carry separate requirements.

9) What about refinancing?

If a project began construction, financed from a non-SRF source, prior to January 17, 2014, but is refinanced through an SRF assistance agreement executed on or after January 17, 2014 and prior to October 1, 2014, AIS requirements will apply to all construction that occurs on or after January 17, 2014, through completion of construction, unless, as is likely, engineering plans and specifications were approved by a responsible state agency prior to January 17, 2014. There is no retroactive application of the AIS requirements where a refinancing occurs for a project that has completed construction prior to January 17, 2014.

10) Do the AIS requirements apply to any other EPA programs, besides the SRF program, such as the Tribal Set-aside grants or grants to the Territories and DC?

No, the AIS requirement only applies to 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)

Covered Iron and Steel Products

11) What is an iron or steel product?

For purposes of the CWSRF and DWSRF projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the public water system or treatment works:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings (defined in more detail below);
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel (defined in more detail below);
- Reinforced precast concrete; and
- Construction materials (defined in more detail below).

12) What does the term ‘primarily iron or steel’ mean?

‘Primarily iron or steel’ places constraints on the list of products above. For one of the listed products to be considered subject to the AIS requirements, it must be made of greater than 50% iron or steel, measured by cost. The cost should be based on the material costs.

13) Can you provide an example of how to perform a cost determination?

For example, the iron portion of a fire hydrant would likely be the bonnet, body and shoe, and the cost then would include the pouring and casting to create those components. The other material costs would include non-iron and steel internal workings of the fire hydrant (i.e., stem, coupling, valve, seals, etc). However, the assembly of the internal workings into the hydrant body would not be included in this cost calculation. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required. An exception to this definition is reinforced precast concrete, which is addressed in a later question.

14) If a product is composed of more than 50% iron or steel, but is not listed in the above list of items, must the item be produced in the US? Alternatively, must the iron or steel in such a product be produced in the US?

The answer to both question is no. Only items on the above list must be produced in the US. Additionally, the iron or steel in a non-listed item can be sourced from outside the US.

15) What is the definition of steel?

Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Metallic elements such as chromium, nickel, molybdenum, manganese, and silicon may be added during the melting of steel for the purpose of enhancing properties such as corrosion resistance, hardness, or strength. The definition of steel covers carbon steel, alloy steel, stainless steel, tool steel and other specialty steels.

16) What does ‘produced in the United States’ mean?

Production in the United States of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the

material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

17) Are the raw materials used in the production of iron or steel required to come from US sources?

No. Raw materials, such as iron ore, limestone, scrap iron, and scrap steel, can come from non-US sources.

18) If an above listed item is primarily made of iron or steel, but is only at the construction site temporarily, must such an item be produced in the US?

No. Only the above listed products made primarily of iron or steel, permanently incorporated into the project must be produced in the US. For example trench boxes, scaffolding or equipment, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel.

19) What is the definition of ‘municipal castings’?

Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings are:

- Access Hatches;
- Ballast Screen;
- Benches (Iron or Steel);
- Bollards;
- Cast Bases;
- Cast Iron Hinged Hatches, Square and Rectangular;
- Cast Iron Riser Rings;
- Catch Basin Inlet;
- Cleanout/Monument Boxes;
- Construction Covers and Frames;
- Curb and Corner Guards;
- Curb Openings;
- Detectable Warning Plates;
- Downspout Shoes (Boot, Inlet);
- Drainage Grates, Frames and Curb Inlets;
- Inlets;
- Junction Boxes;
- Lampposts;
- Manhole Covers, Rings and Frames, Risers;

Meter Boxes;
Service Boxes;
Steel Hinged Hatches, Square and Rectangular;
Steel Riser Rings;
Trash receptacles;
Tree Grates;
Tree Guards;
Trench Grates; and
Valve Boxes, Covers and Risers.

20) What is ‘structural steel’?

Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

21) What is a ‘construction material’ for purposes of the AIS requirement?

Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

22) What is not considered a ‘construction material’ for purposes of the AIS requirement?

Mechanical and electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples (including their appurtenances necessary for their intended use and operation) are NOT considered construction materials: pumps, motors, gear reducers, drives (including variable frequency drives (VFDs)), electric/pneumatic/manual accessories used to operate valves (such as electric valve actuators), mixers, gates, motorized screens (such as traveling screens), blowers/aeration equipment, compressors, meters, sensors, controls and switches, supervisory control and

data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, analytical instrumentation, and dewatering equipment.

23) If the iron or steel is produced in the US, may other steps in the manufacturing process take place outside of the US, such as assembly?

No. Production in the US of the iron or steel used in a listed product requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

24) What processes must occur in the US to be compliant with the AIS requirement for reinforced precast concrete?

While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing bar and wire must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin.

If the reinforced concrete is cast at the construction site, the reinforcing bar and wire are considered to be a construction material and must be produced in the US.

Compliance

25) How should an assistance recipient document compliance with the AIS requirement?

In order to ensure compliance with the AIS requirement, specific AIS contract language must be included in each contract, starting with the assistance agreement, all the way down to the purchase agreements. Sample language for assistance agreements and contracts can be found in Appendix 3 and 4.

EPA recommends the use of a step certification process, similar to one used by the Federal Highway Administration. The step certification process is a method to ensure that producers adhere to the AIS requirement and assistance recipients can verify that products comply with the AIS requirement. The process also establishes accountability and better enables States to take enforcement actions against violators.

Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer,

processor, etc) of the iron and steel products certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification can be quite simple. Typically, it includes the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer's responsible party. Attached, as Appendix 5, are sample certifications. These certifications should be collected and maintained by assistance recipients.

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. While this type of certification may be acceptable, it may not provide the same degree of assurance. Additional documentation may be needed if the certification is lacking important information. Step certification is the best practice.

26) How should a State ensure assistance recipients are complying with the AIS requirement?

In order to ensure compliance with the AIS requirement, States SRF programs must include specific AIS contract language in the assistance agreement. Sample language for assistance agreements can be found in Appendix 3.

States should also, as a best practice, conduct site visits of projects during construction and review documentation demonstrating proof of compliance which the assistance recipient has gathered.

27) What happens if a State or EPA finds a non-compliant iron and/or steel product permanently incorporated in the project?

If a potentially non-compliant product is identified, the State should notify the assistance recipient of the apparent unauthorized use of the non-domestic component, including a proposed corrective action, and should be given the opportunity to reply. If unauthorized use is confirmed, the State can take one or more of the following actions: request a waiver where appropriate; require the removal of the non-domestic item; or withhold payment for all or part of the project. Only EPA can issue waivers to authorize the use of a non-domestic item. EPA may use remedies available to it under the Clean Water Act, the Safe Drinking Water Act, and 40 CFR part 31 grant regulations, in the event of a violation of a grant term and condition.

It is recommended that the State work collaboratively with EPA to determine the appropriate corrective action, especially in cases where the State is the one who identifies the item in noncompliance or there is a disagreement with the assistance recipient.

If fraud, waste, abuse, or any violation of the law is suspected, the Office of Inspector General (OIG) should be contacted immediately. The OIG can be reached at 1-

888-546-8740 or OIG_Hotline@epa.gov. More information can be found at this website: <http://www.epa.gov/oig/hotline.htm>.

28) How do international trade agreements affect the implementation of the AIS requirements?

The AIS provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatories to such agreements. In general, SRF assistance recipients are not signatories to such agreements, so these agreements have no impact on this AIS provision. In the few instances where such an agreement applies to a municipality, that municipality is under the obligation to determine its applicability and requirements and document the actions taken to comply for the State.

Waiver Process

The statute permits EPA to issue waivers for a case or category of cases where EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent.

In order to implement the AIS requirements, EPA has developed an approach to allow for effective and efficient implementation of the waiver process to allow projects to proceed in a timely manner. The framework described below will allow States, on behalf of the assistance recipients, to apply for waivers of the AIS requirement directly to EPA Headquarters. Only waiver requests received from states will be considered. Pursuant to the Act, EPA has the responsibility to make findings as to the issuance of waivers to the AIS requirements.

Definitions

The following terms are critical to the interpretation and implementation of the AIS requirements and apply to the process described in this memorandum:

Reasonably Available Quantity: The quantity of iron or steel products is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

Satisfactory Quality: The quality of iron or steel products, as specified in the project plans and designs.

Assistance Recipient: A borrower or grantee that receives funding from a State CWSRF or DWSRF program.

Step-By-Step Waiver Process

Application by Assistance Recipient

Each local entity that receives SRF water infrastructure financial assistance is required by section 436 of the Act to use American made iron and steel products in the construction of its project. However, the recipient may request a waiver. Until a waiver is granted by EPA, the AIS requirement stands, except as noted above with respect to municipalities covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the AIS requirement, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron and steel products. It is essential that the assistance recipient include the AIS terms in any request for proposals or solicitations for bids, and in all contracts (see Appendix 3 for sample construction contract language). The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act 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 quality; 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.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron and steel products needed to complete the project as described in the plans and specifications that may not be available from domestic sources. It may also identify the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the State SRF program. It is strongly recommended that the State designate a single person for all AIS communications. The State SRF designee will review the application for the waiver and determine whether the necessary information has been included. Once the waiver application is complete, the State designee will forward the application to either of two email addresses. For CWSRF waiver requests, please send the application to: cwsrfwaiver@epa.gov. For DWSRF waiver requests, please send the application to: dwsrfwaiver@epa.gov.

Evaluation by EPA

After receiving an application for waiver of the AIS requirements, EPA Headquarters will publish the request on its website for 15 days and receive informal comment. EPA Headquarters will then use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.

In the event that EPA finds that adequate documentation and justification has been submitted, the Administrator may grant a waiver to the assistance recipient. EPA will notify the State designee that a waiver request has been approved or denied as soon as such a decision has been made. Granting such a waiver is a three-step process:

1. Posting – After receiving an application for a waiver, EPA is required to publish the application and all material submitted with the application on EPA’s website for 15 days. During that period, the public will have the opportunity to review the request and provide informal comment to EPA. The website can be found at: http://water.epa.gov/grants_funding/aisrequirement.cfm
2. Evaluation – After receiving an application for waiver of the AIS requirements, EPA Headquarters will use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.
3. Signature of waiver approval by the Administrator or another agency official with delegated authority – As soon as the waiver is signed and dated, EPA will notify the State SRF program, and post the signed waiver on our website. The assistance recipient should keep a copy of the signed waiver in its project files.

Public Interest Waivers

EPA has the authority to issue public interest waivers. Evaluation of a public interest waiver request may be more complicated than that of other waiver requests so they may take more time than other waiver requests for a decision to be made. An example of a public interest waiver that might be issued could be for a community that has standardized on a particular type or manufacturer of a valve because of its performance to meet their specifications. Switching to an alternative valve may require staff to be trained on the new equipment and additional spare parts would need to be purchased and stocked, existing valves may need to be unnecessarily replaced, and portions of the system may need to be redesigned. Therefore, requiring the community to install an alternative valve would be inconsistent with public interest.

EPA also has the authority to issue a public interest waiver that covers categories of products that might apply to all projects.

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron or steel products. EPA may develop national or (US geographic) regional categorical waivers through the identification of similar circumstances in the detailed justifications presented to EPA in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public's interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact Jordan Dorfman, Attorney-Advisor, State Revolving Fund Branch, Municipal Support Division, at dorfman.jordan@epa.gov or (202) 564-0614 or Kiri Anderer, Environmental Engineer, Infrastructure Branch, Drinking Water Protection Division, at anderer.kirsten@epa.gov or (202) 564-3134.

Attachments

Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to help ensure that all appropriate and necessary information is submitted to EPA. EPA recommends that States review this checklist carefully and provide all appropriate information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

| Items | <input type="checkbox"/> | No |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----|
| <p>General</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Description of the foreign and domestic construction materials — Unit of measure — Quantity — Price — Time of delivery or availability — Location of the construction project — Name and address of the proposed supplier — A detailed justification for the use of foreign construction materials • Waiver request was submitted according to the instructions in the memorandum • Assistance recipient made a good faith effort to solicit bids for domestic iron and steel products, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor | | |
| <p>Cost Waiver Requests</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers | | |
| <p>Availability Waiver Requests</p> <ul style="list-style-type: none"> • Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested: <ul style="list-style-type: none"> — Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials — Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers. — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Waiver request includes a statement from the prime contractor and/or supplier confirming the non-availability of the domestic construction materials for which the waiver is sought • Has the State received other waiver requests for the materials described in this waiver request, for comparable projects? | | |

Appendix 2: HQ Review Checklist for Waiver Request

Instructions: To be completed by EPA. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic product for which the waiver is sought:

1. The iron and/or steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron and/or steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

| Review Items | Yes | No | N/A | Comments |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|----------|
| Cost Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include the following information? <ul style="list-style-type: none"> — Comparison of overall cost of project with domestic iron and steel products to overall cost of project with foreign iron and steel products — Relevant excerpts from the bid documents used by the contractors to complete the comparison — A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market • Does the Total Domestic Project exceed the Total Foreign Project Cost by more than 25%? | | | | |
| Availability Waiver Requests <ul style="list-style-type: none"> • Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron and/or steel product for which the waiver is requested? <ul style="list-style-type: none"> — Supplier information or other documentation indicating availability/delivery date for materials — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of materials • Does supporting documentation provide sufficient evidence that the contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers? • Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information) • Is EPA aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? <p>Examples include:</p> <ul style="list-style-type: none"> — Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same State — Multiple waiver requests for the materials described in this waiver request, for comparable projects in other States — Correspondence with construction trade associations indicating the non-availability of the materials • Are the available domestic materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits? | | | | |

Appendix 3: Example Loan Agreement Language

ALL ASSISTANCE AGREEMENT MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN SRF ASSISTANCE AGREEMENTS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE LAW:

Comply with all federal requirements applicable to the Loan (including those imposed by the 2014 Appropriations Act and related SRF Policy Guidelines) which the Participant understands includes, among other, requirements that all of the iron and steel products used in the Project are to be produced in the United States (“American Iron and Steel Requirement”) unless (i) the Participant has requested and obtained a waiver from the Agency pertaining to the Project or (ii) the Finance Authority has otherwise advised the Participant in writing that the American Iron and Steel Requirement is not applicable to the Project.

Comply with all record keeping and reporting requirements under the Clean Water Act/Safe Drinking Water Act, including any reports required by a Federal agency or the Finance Authority such as performance indicators of program deliverables, information on costs and project progress. The Participant understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities and (ii) failure to comply with the Clean Water Act/Safe Drinking Water Act and this Agreement may be a default hereunder that results in a repayment of the Loan in advance of the maturity of the Bonds and/or other remedial actions.

Appendix 4: Sample Construction Contract Language

ALL CONTRACTS MUST HAVE A CLAUSE REQUIRING COMPLIANCE WITH THE AIS REQUIREMENT. THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS IN PROJECTS THAT USE SRF FUNDS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW:

The Contractor acknowledges to and for the benefit of the City of _____ (“Purchaser”) and the _____ (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 that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Appendix 5: Sample Certifications

The following information is provided as a sample letter of **step** certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company

Address City,

State Zip

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

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

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such process took place at the following location:

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

Signed by company representative

The following information is provided as a sample letter of certification for AIS compliance. Documentation must be provided on company letterhead.

Date

Company Name

Company Address

City, State Zip

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

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. XXXX
2. XXXX
3. XXXX

Such process took place at the following location:

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

Signed by company representative

AMERICAN IRON AND STEEL CERTIFICATION

1. Identification of American-made Iron and Steel: Consistent with the terms of the Borrower's bid solicitation and the provisions of the Consolidated Appropriations Act of 2014 ("Omnibus Spending Bill"), Section 436, the Bidder certifies that this bid reflects the Bidder's best, good faith to identify domestic sources of iron and steel for all iron and steel products contained in the bid solicitation where such American-made products are available on the schedule and consistent with the deadlines prescribed in or required by the bid solicitation.
2. Verification of U.S. Production: The Bidder certifies that all iron and steel products contained in the bid solicitation that are American-made have been so identified, and if this bid is accepted, the Bidder agrees that it will provide reasonable, sufficient, and timely verification to the Borrower of the U.S. production of each iron and steel product so identified through the completion of the step certification process.
3. The Bidder is responsible for submitting certified product information to the assistance recipient. Utilization of the step certification process is strongly encouraged. This process requires that each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products certifies that their step in the process was domestically performed and provides a letter of certification from each supplier/fabricator on transfer of intermediate product. Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. An example certification letter can be found in Appendix 5 of the American Iron and Steel Provisions in the SRF General Conditions.
4. The American Iron and Steel provision applies in a manner consistent with United States obligations under international agreements. Typically, these obligations only apply to direct procurement by the entities that are signatory to such agreements. State Revolving Fund assistance recipients are not signatories to such agreements, so these agreements have no impact on the American Iron and Steel provision. Claims from suppliers that the American Iron and Steel provision does not apply to certain products based on the International Trade Agreement exemptions of the Consolidated Appropriations Act of 2014 will not be accepted.
5. Documentation Regarding Non-American-made Iron or Steel: The Bidder certifies that for any iron and steel product that is not American-made and is so identified in this bid, the Bidders has included in or attached to this bid the following, as applicable:
 - a. Identification of and citation to a national waiver published by the U.S. Environmental Protection Agency on the official public Internet Web site of the Environmental Protection Agency that is applicable to such iron and steel product, and an analysis that supports its applicability to the iron and steel product;
 - b. Verifiable documentation sufficient to the Borrower that the waiver request process has been initiated. The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:
 1. Applying the American Iron and Steel requirements of the Act 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 quality; 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.

A checklist detailing the types of information required for a waiver to be processed can be found in Appendix 1 of the American Iron and Steel Provisions of the SRF General Conditions. Until a waiver is granted by EPA, the AIS requirements stand.

Bidder/Contractor

Date

Signature of Contractor/Title

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

2 CFR §200.216

(a) Recipients and subrecipients are prohibited from obligating or expending loan or grant funds to:

(1) Procure or obtain;

(2) Extend or renew a contract to procure or obtain; or

(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(i) 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).

(ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) 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.

(b) In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

(c) See Public Law 115-232, section 889 for additional information.

(d) See also §200.471.

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**SECTION 01 3100
MOBILIZATION**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This item shall consist of preparatory work and operations, including but not limited to the necessary movement of personnel, equipment, and incidentals to the project site; for the establishment of all offices, buildings, and other facilities necessary for work on the project; and for all other work, insurance costs, bonding costs, excise/sales tax, and operations that must be performed, and for all cost incurred before starting work on the various contract items on the project site.
- B. When an item for Mobilization is included in the proposal, payment will be made at the contract Lump Sum price and be considered full compensation for Mobilization costs. Partial payments will be made on the basis of the following schedule.

1.02 MEASUREMENT AND PAYMENT

- A. When the contract has been fully executed by parties thereto, an amount as determined by the following schedule will be paid. Except, initial payment shall not exceed 25 percent of the total contract bid for Mobilization.
 - 1. Contract amounts up to and including \$500,000.
 - a. Payment in an amount equal to 1.0 percent (1%) of total contract amount.
 - 2. Contract amounts in excess of \$500,000.
 - a. Payment in an amount equal to \$5,000 plus 0.60 percent (0.6%) of contract amount in excess of \$500,000.
- B. When five percent (5%) or more of the original contract amount is earned, an additional amount will be paid to bring the total payment for Mobilization to twenty-five percent (25%) of the total contract bid for Mobilization.
- C. When ten percent (10%) or more of the original contract amount is earned, an additional amount will be paid to bring the total payment for Mobilization to fifty percent (50%) of the total contract bid for Mobilization.
- D. When twenty-five percent (25%) or more of the original contract amount is earned, an additional amount will be paid to bring the total payment for Mobilization to sixty percent (60%) of the total contract bid for Mobilization.
- E. When fifty percent (50%) or more of the original contract amount is earned, an additional amount will be paid to bring the total payment for Mobilization to one hundred percent (100%) of the total contract bid for Mobilization.
- F. The item Mobilization shall include Excise Tax due the South Dakota Department of Revenue. If the final contract amount increases or decreases from the original contract amount (including increases from force account work), the increase or decrease in Excise Tax will be incorporated on the final Construction Change Order.

END OF SECTION

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**SECTION 01 3260
CONSTRUCTION STAKING AND LAYOUT**

PART 1 - GENERAL

1.01 GENERAL

- A. The Contractor will be responsible for the accurate construction of all work to the lines, grades, and elevations indicated on the Drawings. The Engineer will furnish basic survey control described herein, but will not necessarily provide all layout and staking services which may be required for specific items of Work.

1.02 SURVEY CONTROL PROVIDED BY THE ENGINEER

- A. Engineer will establish, at the expense of the Owner, such baseline and control points, bench marks, and other data necessary for the Contractor's layout work. The Engineer will provide survey controls as follows:
 - 1. Basic survey control and construction staking for this project.
 - 2. Bench marks within 400 feet of all project work.
 - 3. Work Limits

1.03 LOST OR DESTROYED SURVEY CONTROL

- A. When control points provided by the Engineer are destroyed during the course of the work, the Contractor shall notify the Engineer and shall replace such points or stakes based on remaining control points and using procedures meeting approval of the Engineer.
- B. If it is necessary for the Engineer to replace survey control lost or destroyed due to the Contractor's activities, the Engineer reserves the right to charge the Contractor on an hourly basis of \$110 per hour plus applicable expenses for the work required to replace the lost or destroyed stakes. No replacement staking will be performed without the Contractor's written authorization.

1.04 CHANGES OR DISCREPANCIES ON SURVEY LAYOUT

- A. The Engineer shall be promptly notified of any discrepancies in the staking discovered by the Contractor or others. The Contractor shall not make changes or relocations without written approval of the Engineer.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

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| 52867 / Hwy 34 Infrastructure Improvements | 01 3260 - 1 | CONSTRUCTION STAKING AND LAYOUT |
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**SECTION 01 4010
QUALITY CONTROL SERVICES**

PART 1 - GENERAL

1.01 LABORATORY TESTS

- A. The Owner will employ and pay for the testing services by the Engineer or by another laboratory testing service as determined necessary and required for this project. Testing will include, but not necessarily be limited to, the following:
 - 1. Testing of backfill compaction over water mains, gravity sewer, force main, and related appurtenances.
 - 2. Other testing as may be required.
- B. The Contractor shall cooperate with the Engineer or laboratory to facilitate testing as necessary.
- C. Employment of the Engineer or the laboratory to perform quality control testing shall in no way relieve the Contractor of any obligations of the contract.
- D. The Contractor shall employ and pay for the services of an independent testing laboratory to perform specified services and testing related to design of mixes, source acceptance, testing of aggregates and other materials, and those tests associated with field testing work set forth in Part 3 of this specification.

1.02 QUALIFICATION OF LABORATORY

- A. Meet basic requirements of ASTM E329 - Standard Specification for Agencies Engaged Construction Inspection and/or Testing.
- B. Approved by the Engineer.

1.03 REPORTS BY LABORATORY

- A. Submit two (2) copies of all reports to the Engineer detailing the procedures and results of all tests.
- B. Include the following with each report:
 - 1. Date of report
 - 2. Name of laboratory technician
 - 3. Project title and number
 - 4. Temperature and weather
 - 5. Date and time of sampling or inspection
 - 6. Identification of product and specifications section
 - 7. Location of sample in the Project
 - 8. Type of test/inspection
 - 9. Results of test/inspection
 - 10. Conformance with Contract Documents
 - 11. When requested by Engineer, provide interpretation of results

1.04 LIMITATION OF LABORATORY AUTHORITY

- A. Laboratory is not authorized to:
 - 1. Alter, release, revoke, or enlarge on requirements of the Contract Documents.
 - 2. Approve or accept any portion of the Work.
 - 3. Perform any duties of the Contractor.
 - 4. Stop work.

1.05 SCHEDULE OF LABORATORY TESTS REQUIRED

- A. Section 03 3310 - Cast-in-Place Concrete
- B. Section 31 2200 - Grading
- C. Section 31 2322 - Trenching, Backfilling, and Compacting

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- D. Section 32 1110 - Aggregate Base Course
- E. Section 32 1133 - Gravel Surfacing

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 MANUFACTURER'S FIELD SERVICES

- A. Contractor shall provide and pay for the services of manufacturer's representatives to perform the specified services.
- B. Specific services to be required vary with equipment or systems provided. Refer to specific specifications sections for scope of services.

3.02 QUALIFICATIONS OF MANUFACTURER'S REPRESENTATIVE

- A. Authorized representative of manufacturer.
- B. With manufacturer for at least two (2) years of uninterrupted service.
- C. Experience specifically applicable to the type and size of equipment or system used on this project.

3.03 FIELD TESTING

- A. Contractor shall pay all costs associated with field testing of specified materials and equipment.
- B. Specific services to be required vary with materials or equipment used. Refer to specific sections of the specifications for scope of services.

3.04 TESTING REQUIREMENTS

- A. Provide all materials, labor, equipment, and services for testing.
- B. Notify Engineer of all tests at least 24 hours in advance.
- C. Repair all materials and equipment which fail during testing.

3.05 SCHEDULE OF FIELD TESTS REQUIRED

- A. Tests by Contractor:
 - 1. Leak testing of pipelines and hydraulic structures
 - a. Section 33 0513 - Manholes and Structures
 - b. Section 33 1120 - Water Mains and Appurtenances
 - 2. Bacterial Testing
 - a. Section 33 1120 - Water Mains and Appurtenances
- B. Tests by Owner:
 - 1. Section 03 3310 - Cast-in-Place Concrete: Slump, Air Content, and Cylinders
 - 2. Section 31 2322 - Trenching, Backfilling, and Compacting: Density
 - 3. Section 32 1110 - Aggregate Base Course: Density

END OF SECTION

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**SECTION 01 5010
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**

PART 1 - GENERAL

1.01 SCOPE

- A. Furnish, install, and maintain the following, except as otherwise provided herein. These costs will be absorbed into the project bid items. No separate payment will be made.
 - 1. Temporary utilities
 - 2. Construction aids
 - 3. Fences and barriers
 - 4. Waste Removal

1.02 PRICE AND PAYMENT PROCEDURES

- A. Traffic Control: By unit. Includes materials, installation, maintenance, and removal.
- B. Traffic Control Miscellaneous: By a lump sum. Includes barrels, cones, fences, and other traffic control items. Payment will be full compensation for installation, maintenance, relocation, and removal of traffic control devices. Partial payments for traffic control will be made as follows:
 - 1. 50% after devices are furnished to site and erected in accordance with the approved plan.
 - 2. 50% at substantial completion of work.
- C. All other costs related to this Section are to be incidental and no separate measurement will be made.

PART 2 - PRODUCTS

2.01 TEMPORARY UTILITIES

- A. Power and Miscellaneous Utilities:
 - 1. The Contractor will arrange and pay for all costs associated with construction power, lighting, water, heating and cooling, and ventilation.
- B. Sanitary Facilities:
 - 1. The Contractor is responsible for providing adequate temporary sanitary facilities for construction personnel at the time of mobilization.
- C. Drinking Water Facilities:
 - 1. The Contractor is responsible for providing necessary drinking water facilities for construction personnel.
- D. Miscellaneous Utilities:
 - 1. The Contractor will arrange and pay for all costs associated with construction electric power, lighting, water, heating and cooling, and ventilation.
- E. Existing facilities may not be used.
- F. Clean and repair damage caused by installation or use of temporary work.
- G. Restore existing facilities used during construction to original condition.

2.02 CONSTRUCTION AIDS

- A. Provide all construction aids required to facilitate construction; including scaffolding, falsework, ladders, stairs, ramps, platforms, hoists, construction signs, barricades, cones, barrels, flashing lights, and related items.
- B. The Contractor shall take all necessary precautions for the safety of employees on the Project and shall comply with all applicable provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workmen and the public and shall post danger signs warning against the hazards created by such features of construction as protruding nails, hoists, well holes, hatchways,

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scaffolding, openings, trenches, and falling material and provide such barricades and enclosures as required by local authorities or the consideration of general safety.

- C. The Contractor shall erect all barricades, construction signs, cones, barrels, flashing lights, and related items necessary to protect the workmen and the traveling public. The construction signing as identified in the Manual on Uniform Traffic Control Devices (MUTCD) as published by the Federal Highway Administration shall be followed. The MUTCD may be viewed at the following internet address: <http://mutcd.fhwa.dot.gov/HTM/2003r1/html-index.htm>
- D. Safety precautions, including construction safety and construction signing, will be absorbed into the various project bid items. No separate payment will be made.

2.03 BARRIERS AND FENCING

- A. Fencing:
 - 1. Provide fencing required to protect equipment or materials.
 - 2. Provide fencing needed to insure safety of Contractor's, Owner's, and Engineer's personnel and the general public.
- B. Barricades:
 - 1. Barricade excavations and illuminate at night.
- C. Traffic Controls: As indicated on Plans.

2.04 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.

PART 3 – EXECUTION – NOT USED

END OF SECTION

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**SECTION 03 3010
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cast-in-place concrete, the extent of which is shown on the drawings.
- B. Concrete formwork
- C. Miscellaneous concrete elements, including thrust blocks and manholes
- D. Concrete curing

1.02 ADDITIONAL REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01 3240 - Shop Drawings, Product Data, and Samples
- B. Section 01 4010 - Quality Control Services

1.03 MEASUREMENT AND PAYMENT

- A. Concrete - Slab-on-Grade or Slab-on-Fill: Includes formwork, reinforcement, concrete, placement accessories, consolidating and leveling, troweling, and curing.
 - 1. Measurement by: Cubic yard
- B. Concrete - Driveway Pavement: Includes formwork, reinforcement, concrete, placement accessories, consolidating and leveling, troweling, and curing.
 - 1. Measurement by: Square yard
- C. Concrete - Sidewalk: Includes formwork, reinforcement, concrete, placement accessories, consolidating and leveling, troweling, and curing.
 - 1. Measurement by: Square foot
- D. Concrete - Curb and Gutter: Includes formwork, reinforcement, concrete, placement accessories, consolidating and leveling, troweling, and curing.
 - 1. Measurement by: Linear foot
- E. Concrete - Type 1 Curb Ramp with Detectable Warning Panel: Includes formwork, concrete, placement, accessories, and curing.
 - 1. Measurement: By the unit. As shown in detail.
- F. Concrete - Blocks: Includes formwork, concrete, placement, accessories, and curing.
 - 1. Payment shall be included with the cost of installing each fitting. No separate measurement or payment will be made.
- G. Concrete - Valve Box Concrete Collar: Includes formwork, concrete, placement, accessories, and curing.
 - 1. Measurement: By the unit. As shown in detail.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, curing compounds, and others as required by the Engineer.
- B. Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315-80 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- C. Mix Design: Submit proposed concrete mix design.
 - 1. Slump on which design is based.
 - 2. Gallons of water per cubic yard.
 - 3. Brand, type, and quantity of cement.

4. Specific gravity and gradation of each aggregate.
 5. Aggregate ratios.
 6. Dry weight of aggregate per cubic yard.
 7. Brand, type, and quantity of each admixture.
 8. Air entrainment content.
 9. Compressive strengths of 7-day and 28-day test specimens of mix design proposed for use.
 10. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
 11. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing, and Placing.
- D. Laboratory Test Reports: Submit two (2) copies of laboratory test reports for concrete materials and mix design test as specified.
- E. Material Certificates: Provide materials certificates in lieu of material laboratory test reports when permitted by Engineer. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds specified requirements.

1.05 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified.
1. ACI 301 "Specifications for Structural Concrete for Buildings."
 2. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete."
 3. ACI 318 "Building Code Requirements for Reinforced Concrete."
 4. ACI 347 "Recommended Practice for Concrete Formwork."
 5. Concrete Reinforcing Steel Institute, "Manual of Standard Practice."
- B. Qualifications of Installers: Throughout the progress of installation of the work of this section, provide at least one (1) person who shall be thoroughly familiar with the specified requirements, completely trained and experienced in the necessary skills, and who shall be present at the site and shall direct all work performed under this section. Use adequate number of skilled workmen to ensure installation in strict accordance with the drawings and specifications.
- C. Materials and installed work may require testing and retesting, as directed by the Engineer, at any time during progress of the work. Allow free access to material stockpiles and facilities. Tests not specifically indicated to be done at Owner's expense, including retesting of rejected materials and installed work, shall be done at Contractor's expense.

1.06 PRODUCT DELIVERY AND HANDLING

- A. Prepare delivery ticket for each load of ready-mixed concrete and deliver to Owner's representative.
- B. Ticket to include: quantity, mix proportions or identifier, time when cement added, water added at site (if any), and temperature (air).

PART 2 - PRODUCTS

2.01 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials to provide continuous straight, smooth, exposed surfaces.
1. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.
- B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.

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- C. Form Coating: Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.02 REINFORCING MATERIALS

- A. Reinforcing Bars: ANSI/ASTM A615, Grade 60, deformed.
- B. Steel Wire: ANSI/ASTM A82, plain, cold-drawn, steel.
- C. Welded Wire Fabric: ANSI/ASTM A185, welded steel wire fabric.
- D. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI recommendations, unless otherwise acceptable.
 - 1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 - 2. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

2.03 CONCRETE MATERIALS

- A. Portland Cement: ANSI/ASTM C150, Type II - Moderate, unless otherwise acceptable to Engineer.
 - 1. Use cement for entire project from same source, unless otherwise acceptable to Engineer.
- B. Normal Weight Aggregates: ANSI/ASTM C33, and as herein specified. Provide aggregates from single source.
- C. Water: Potable.
- D. Air-Entraining Admixture: ANSI/ASTM C260.
- E. Calcium chloride not permitted.
- F. Fly ash not permitted.

2.04 RELATED MATERIALS

- A. Moisture Barrier: Provide moisture barrier cover over prepared base material where indicated. Use only materials which are resistant to decay when tested in accordance with ANSI/ASTM E154, as follows:
 - 1. Polyethylene sheet not less than 6 mils thick.
- B. Non-Shrink Grout: CRD-C 588, factory premixed grout subject to compliance with requirements, provide Type D, nonmetallic, one of the following:
 - 1. "Masterflow 713"; Master Builders.
 - 2. "Sonogrout"; Sonneborn-Contech.
 - 3. "Euco-NS"; Euclid Chemical Co.
 - 4. "Five Star Grout"; U. S. Grout Co.
 - 5. "Duragrout"; L & M Const. Chemical Co.
 - 6. Engineer approved equal
- C. Moisture-Retaining Cover for Curing: One of the following, complying with ANSI/ASTM C171:
 - 1. Waterproof paper.
 - 2. Polyethylene film.
 - 3. Polyethylene-coated burlap.
- D. Liquid Membrane-Forming Curing Compound: Federal Spec TT-C-800, Type I, unless other type acceptable to the Engineer.
 - 1. Products offered by manufacturers to comply with the requirements for membrane-forming curing compounds include the following:
 - a. "Klearseal"; Setcon Industries.

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- b. "Floor Coat"; The Euclid Chemical Corp.
 - c. "MB-429"; Master Builders.
 - d. "Kure N Seal 800"; Sonneborn-Contech.
 - e. "Klorkure 800"; Setcon Industries.
 - f. "Clear Seal 800"; W. R. Grace.
 - g. "Dress and Seal"; L & M Const. Chemicals.
 - h. "Sealco 800"; Gifford-Hill.
 - i. "Horn WB-309 Cure"; AC Horn, Inc.
 - j. Engineer approved equal.
- E. Expansion Joint Materials:
- 1. Fiber: Nonextruding, ASTM D554.
 - 2. Foam: Resilient closed cell polyurethane
 - a. Acceptable Products:
 - 1) W.R. Meadows "Rescor"
 - 2) Masco flexible foam expansion joint filler
 - 3) Engineer approved equal
 - 3. Sealer: Cold applied, polymer based elastomer
 - a. Acceptable Products:
 - 1) W.R. Meadows "Gardox"
 - 2) Dow Corning 890-SL
 - 3) Engineer approved equal
- F. Waterstops: PVC, 4" size, meet Corps of Engineers Specification CRD-C572, heat welded joints.
- 1. Configuration: As indicated on the drawings.
 - 2. Size: As indicated on the drawings.
 - 3. Acceptable Products:
 - a. Volclay RX101
 - b. Engineer approved equal

2.05 PROPORTIONING AND DESIGN OF MIXES

- A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method is used, use an independent testing facility acceptable to Engineer for preparing and reporting proposed mix designs.
- B. Submit written reports to Engineer of each proposed mix for each class of concrete at least fifteen (15) days prior to start of work. Do not begin concrete production until mixes have been reviewed by Engineer.
- C. Concrete of the various mixes indicated as required in these specifications or on the drawings shall be proportioned in accordance with the following requirements as a minimum. Appropriate structural concrete designs shall be furnished by the Contractor.

| Location | Walls & Slabs in Contact With Soil | Footings, Pipe Easements and Interior Slabs and not Subject to Freezing | Miscellaneous Concrete Permanently Exposed to Weather, Such as Sidewalks, Pipe Supports, Etc. |
|----------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Compressive strength at 28 days | 4000 psi | 3000 psi | 4000 psi |

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| Minimum Cement Content | 578 lbs/CY | 517 lbs/CY | 578 lbs/CY |
| Maximum Water Cement Ratio | 0.45 | 0.53 | 0.45 |
| Size of Course Aggregate | 3/4" | 3/4" | 3/4" |
| *Slump Range | 3" - 4" | 2" - 3" | 3" - 4"*** |
| **Air Content | 5% - 7.5% | 5% - 7.5% | 5% - 7.5% |

1. *Slump Ranges do not apply if an approved high range water reducing agent is used.
2. **Air may be omitted from interior floor slabs not subject to freezing.
3. ***Maximum 2" slump for slip form paving.

D. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.

2.06 CONCRETE MIXES

- A. Ready-Mix Concrete: Comply with requirements of ANSI/ASTM C94, and as herein specified. Each batch or truckload of concrete shall be in place within 1 1/2 hours from the time the water is introduced into the mixture. Retempering of delayed batches which have stiffened shall be prohibited. Indiscriminate addition of water to increase slump shall be prohibited. When the concrete arrives at the project with slump below that suitable for placing, water may be added only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. The water must be incorporated by additional mixing equal to at least half of the total mixing required. Any addition of water above that permitted by the limitation of water-cement ratio shall be accompanied by a quantity of cement sufficient to maintain the specified water-cement ratio. Such addition must be reviewed by the Engineer.
- B. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ANSI/ASTM C94 may be required.
 1. When air temperature is between 85 degrees F and 90 degrees F, reduce mixing and delivery time from 1 1/2 hours to 75 minutes.
 2. When air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.01 FORMS

- A. Design, erect, support, brace and maintain form work to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct form work so concrete members and structure are of correct size, shape, alignment, elevation, and position.
- B. Design form work to be readily removable without impact, shock, or damage to cast-in-place concrete surfaces and adjacent materials.
- C. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, locations, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidify butt joints and provide backup at joints to prevent leakage of cement paste.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

- E. Provide temporary openings where interior area of form work is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.
- F. Form Ties: Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces.
 - 1. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is at least 1 1/2" inside concrete.
 - 2. Unless otherwise shown, provide form ties which will not leave holes larger than 1" diameter in concrete surface.
- G. Provisions for Other Trades: Provide openings in concrete form work to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- H. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before concrete is placed. Retighten forms and bracing after concrete placement is completed to eliminate mortar leaks and maintain proper alignment.

3.02 PLACING REINFORCEMENT

- A. Comply with Concrete Reinforcing Steel Institute's "Recommended Practice for Placing Reinforcing Bars," for details and methods of reinforcement placement and supports, and as herein specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.
- C. Accurately position, support and secure reinforcement against displacement by form work, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.
- D. Place reinforcement to obtain the required coverages for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- E. Bending: Bend bars cold.
- F. Splices:
 - 1. Lap all splices 32 bar diameters, but at least 24".
 - 2. Continue bars through corners using bent bar laps.

3.03 JOINTS

- A. Construction Joints: Locate and install construction joints, which are not shown on drawings, so as not to impair strength and appearance of the structure, as acceptable to Engineer.
- B. Provide keyways at least 1 1/2" deep in construction joints in walls, slabs, beams, columns and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
- C. Place construction joints perpendicular to the main reinforcement. Continue reinforcement across construction joints except for slabs on grade.
- D. Build in water stops at all construction joints shown on the plans, or at other construction joint locations for tank and other structures used for water containment.
- E. Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs-on-ground at points of contact between slabs on ground and vertical surfaces, such as column pedestals, foundation walls, grade beams, and elsewhere as indicated.

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- F. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. Use inserts 1/4" wide x 1/4" per inch of slab depth, unless otherwise indicated.
- G. Form contraction joints by inserting premolded hardboard or fiberboard strip into fresh concrete until top surface of strip is flush with slab surface. After concrete has cured, remove inserts and clean groove of loose debris.
 - 1. Contraction joints may be formed by saw cuts as soon after slab finishing as possible without dislodging aggregate.
- H. Joint filler and sealant materials shall be proposed by Contractor and approved by the Engineer.

3.04 INSTALLATION OF EMBEDDED ITEMS

- A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached thereto.
- B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.05 PREPARATION OF FORM SURFACES

- A. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.
- B. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.
- C. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel form work is not acceptable.

3.06 CONVEYING CONCRETE

- A. Convey concrete to the point of final deposit using equipment and methods which will prevent separation or loss of ingredients.
- B. Place concrete in its final position within forms without moving concrete mix laterally more than 5 feet.

3.07 CONCRETE PLACEMENT

- A. General: Comply with ACI 304, and as herein specified.
- B. Notify Engineer not less than 24 hours prior to commencement of placement operations.
- C. Preplacement Inspection: Before placing concrete, inspect and complete form work installation, reinforcing steel, and items to be embedded or casted. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.
- D. Coordinate the installation of joint materials and moisture barrier with placement of forms and reinforcing steel.
- E. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.
- F. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

- G. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.
- H. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.
- I. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
- J. Bring slab surfaced to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
- K. Maintain reinforcing in proper position during concrete placement operations.
- L. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.
 - 1. When air temperature has fallen to or is expected to fall below 40 degrees F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 60 degrees F, and not more than 80 degrees F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow.
 - 3. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 4. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.
- M. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
 - 1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F. Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing.
 - 2. Cover reinforcing steel with water soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete. Wet forms thoroughly before placing concrete.
- N. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

3.08 FINISH OF FORMED SURFACES

- A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.
- B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, painting, or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.
- C. Smooth Rubbed Finish: Provide smooth rubbed finish to scheduled concrete surfaces, which have received smooth form finish treatment, not later than one day after form removal.
 - 1. Moisten concrete surfaces and rub with carborundum brick and other abrasive until a uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

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- D. Related Unformed Surfaces: At tops of walls, horizontal offsets and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise shown.

3.09 MONOLITHIC SLAB FINISHES

- A. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified.
 - 1. After screening, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by handfloating if area is small or inaccessible to power units. Check and level surface plane to a tolerance not exceeding 1/4" in 10 feet when tested with a 10 foot straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
- B. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, paint, urethane, or other thin film finish coating system. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance. Tolerances shall be true planes not exceeding 1/8" from finish floor elevation in 10 feet as determined by 10 foot straightedge placed anywhere on the slab in any direction. Grind smooth surface defects which would telegraph through applied floor covering system.
- C. Nonslip Broom Finish: Apply nonslip broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
 - 1. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Engineer before application.

3.10 SCHEDULE OF CONCRETE FINISH

| <u>Location</u> | <u>Concrete Type of Finish</u> | <u>Surface Treatment</u> |
|-----------------|--------------------------------|--------------------------|
| Floor | Float | None |
| Sidewalk | Nonslip Broom | None |
| Curb & Gutter | Nonslip Broom | None |
| Repair areas | Nonslip Broom | None |

3.11 BONDING TO HARDENED CONCRETE

- A. Bonding to hardened concrete permitted only where approved by the Engineer for joints in non-submerged work or areas where waterstop joints are not required.
- B. Bonding Procedure for Horizontal Joints:
 - 1. Place new concrete on rough, clean, damp faces of existing concrete.
 - 2. Remove surface mortar by chipping to expose aggregate.
 - 3. Clean hardened concrete thoroughly and saturate with clean water for 24 hours preceding placement of fresh concrete.
 - 4. Prepare a concrete mix without coarse aggregate and place a mortar puddle approximately 1/2" in thickness over hardened concrete before commencing normal concrete placement.

3.12 CONCRETE CURING AND PROTECTION

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

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1. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing.
 2. Continue curing for at least seven (7) days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.
- B. Curing Methods: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing compound, and by combinations thereof, as herein specified.
- C. Provide moisture curing by following methods:
1. Keep concrete surface continuously wet by covering with water.
 2. Continuous water-fog spray.
 3. Cover concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.
- D. Provide moisture-cover curing as following:
1. Cover concrete surfaces with moisture-retaining cover for curing concrete.
 2. Place in widest practicable width with sides and ends lapped at least 3".
 3. Sealed by waterproof tape or adhesive.
 4. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
- E. Provide curing compound to slabs as follows:
1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within two hours).
 2. Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions.
 3. Recoat areas subjected to heavy rainfall within three (3) hours after initial applications.
- F. Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener, flooring, painting, and other coatings and finish materials, unless the manufacturer of the curing compound specifies that such use will not affect the bond of the covering.
- G. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs, and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.
- H. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, tops of beams and walls, floor topping, and other flat surfaces by appropriate methods.

3.13 REMOVAL OF FORMS

- A. Form work not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work may be removed after cumulatively curing at not less than 50 degrees F for twelve (12) hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.
- B. Form work supporting weight of concrete, may not be removed in less than fourteen (14) days and until concrete has attained a minimum compressive strength of 3000 psi. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.
- C. Form facing material may be removed for days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.14 REUSE OF FORMS

- A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new form work.
- B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Engineer.

3.15 MISCELLANEOUS CONCRETE ITEMS

- A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place, and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

3.16 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances, or specified requirements.
- B. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.
- C. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Engineer.
 - 1. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete, but in no case to a depth of less than 1".
 - 2. Make edges of cuts perpendicular to the concrete surface.
 - 3. Thoroughly clean, dampen with water, and brush-coat the area to be patched with specified bonding agent.
 - 4. Place patching mortar after bonding compound has dried.
 - 5. For exposed-to-view surfaces, blend white Portland Cement and standard Portland Cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- D. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Engineer. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.
 - 1. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
- E. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.
 - 1. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or

- which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
2. Correct high areas in unformed surfaces by grinding, after concrete has cured at least fourteen (14) days.
 3. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Engineer.
- F. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and applying a bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- G. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one (1) part Portland Cement to 2 1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.
- H. Use epoxy-based mortar for structural repairs, where directed by Engineer.
- I. Repair methods not specified above may be used, subject to acceptance of Engineer.

3.17 QUALITY CONTROL TESTING DURING CONSTRUCTION

- A. Engineer may perform field testing for slump and/or air content of concrete and arrange for laboratory testing of cured concrete specimens.
- B. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- C. Testing Schedule:

| Test | Reference Specification | Frequency |
|-----------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slump | ASTM C143 | Each load |
| Air Content | ASTM C173 | First load of each day's work |
| Temperature | ----- | Hourly if air temp. is below 40 degrees F or above 80 degrees F |
| Compression Specimens | ASTM C39 | One set of 4 cylinders per day plus additional set per each additional 50 CY placed in one day. One specimen at 7 days; one at 14 days; and two specimens at 28 days. |

1. Additional Tests: If test results indicate that specified concrete strengths or other characteristics have not been attained, the Contractor may be required to conduct tests to determine adequacy of a concrete by cored cylinders complying with ASTM C42, or by other methods as directed or agreed to by the Engineer. The Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

- D. Test Results: The testing agency shall report test results in writing to Engineer and Contractor within 24 hours of test.

END OF SECTION

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**SECTION 03 4110
PRECAST CONCRETE**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This specification covers the materials for and manufacture of precast reinforced concrete units produced in accordance with the plans and these specifications.

1.02 REFERENCES

- A. Where applicable, the latest editions of the following standards shall be considered a part of these specifications. In case of conflict, these specifications shall take precedence over the listed standard. (See also Article 2.4, Concrete Materials)
- B. American Association of State Highway and Transportation Officials (AASHTO)
 - 1. "Standard Specification for Highway Bridges"
 - 2. "Guide Specifications for Structural Design of Sound Barriers"
- C. ACI 304 B Guide for Measuring, Mixing, Transporting and Placing Concrete
- D. ACI 318 - Building Code Requirements for Reinforced Concrete
- E. ASTM C478 - Specification for Precast Reinforced Concrete Manholes Sections
- F. ASTM C825 - Standard Specification for Precast Concrete Barriers
- G. ASTM C857 - Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
- H. ASTM C858 - Standard Specification for Underground Precast Concrete Utility Structures
- I. ASTM C890 - Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures
- J. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures
- K. ASTM C915 - Standard Specification for Precast Reinforced Concrete Crib Wall Members
- L. ASTM C923 B Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
- M. ASTM C936 - Standard Specification for Solid Concrete Interlocking Paving Units
- N. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants
- O. ASTM C1227 - Standard Specification for Precast Concrete Septic Tanks
- P. ASTM 1433 - Standard Specification for Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers
- Q. ASTM C1478 - Standard Specification for Storm Drain Resilient Connectors Between Reinforced Concrete Storm Sewer Structures, Pipes and Laterals
- R. AWS D1.1 - Structural Welding Code - Structural Steel
- S. AWS D1.4 - Structural Welding Code - Reinforcing Steel
- T. CRSI Manual of Standard Practice

1.03 FRANCHISE PRODUCTS

- A. Products manufactured under franchise arrangements shall conform to all the requirements specified by the franchiser. Items not included in the franchise specification but included in this specification shall conform to the requirements in this specification.

1.04 SUBMITTALS

- A. Product Data

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1. For standard precast concrete units, the precast concrete producer will supply cut sheets showing conformance to project drawings and requirements and to applicable ASTM specifications listed in this specification. The Precast concrete producer shall certify that such products will meet the ASTM specifications.
 2. For proprietary precast concrete units, the precast concrete producer may supply standard plans or informative literature. Supporting calculations and design details shall be available upon request. The Precast concrete producer shall warrant that such products will perform the intended task.
- B. Shop Drawings
1. The plans for custom-made precast concrete units shall be shop drawings furnished by the precast concrete producer for approval by the Engineer. These drawings shall show complete design, installation, and construction information in such detail as to enable the Engineer to determine the adequacy of the proposed units for the intended purpose. Details of steel reinforcement size and placement as well as supporting design calculations, if appropriate, shall be included. The drawings shall include a schedule, which will list the size and type of precast concrete units at each location where they are to be used. The precast concrete units shall be produced in accordance with the approved drawings.

1.05 QUALITY ASSURANCE

- A. Precast concrete producer shall demonstrate adherence to the standards set forth in the National Precast Concrete Association Quality Control Manual. Precast concrete producer shall meet requirements written in subparagraph 1 or 2.
1. NPCA Certification - The precast concrete producer shall be certified by the National Precast Concrete Association's Plant Certification Program prior to and during production of the products for this project.
 2. Qualifications, Testing, and Inspection
 - a. The Precast concrete producer shall have been in the business of producing precast concrete products similar to those specified for a minimum of five (5) years. The precast concrete producer shall maintain a permanent quality control department or retain an independent testing agency on a continuing basis. The agency shall issue a report, certified by a licensed engineer, detailing the ability of the precast concrete producer to produce quality products consistent with industry standards.
 - b. The Precast concrete producer shall show that the following tests are performed in accordance with the ASTM standards indicated. Tests shall be performed for each 150 cu. yd. of concrete placed, but not less frequently than once per week.
 - 1) Slump: C143
 - 2) Compressive Strength: C31, C192, C39
 - 3) Air Content (when air-entrained concrete is being used): C231 or C173
 - 4) Unit Weight: C138
 - 5) The Precast concrete producer shall provide documentation demonstrating compliance with this subparagraph.
 - 6) The Owner may place an inspector in the plant when the products covered by this specification are being manufactured.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Handling
1. Products shall be stored, handled, shipped, and unloaded in a manner to minimize damage. Lifting holes or inserts shall be consistent with industry standards. Lifting shall be accomplished with methods or devices intended for this purpose.
- B. Acceptance at Site
1. The Engineer shall make final inspection and acceptance of the precast concrete products upon arrival at the jobsite.

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PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. The precast concrete manufacturer must meet the guidelines written in article 1.05 paragraph A.

2.02 MANUFACTURED PRECAST UNITS

- A. Precast Concrete: Provide all units shown in Contract Documents and as needed for a complete and proper installation
- B. Design Criteria - Design units in accordance with:
1. ACI 304 and 318.
 2. CRSI Manual of Standard Practice.
 3. Applicable ASTM Standard(s).
- C. Finishes
1. Formed non-architectural surfaces: Surfaces cast against approved forms using industry practice in cleaning forms, designing concrete mixes, placing and curing concrete. Normal color variations, form joint marks, small surface holes caused by air bubbles, and minor chips and spalls will be tolerated but no major imperfections, honeycombs or other defects will be permitted.
 2. Unformed surfaces: Surfaces finished with a vibrating screed, or by hand with a float. Normal color variations, minor indentations, minor chips and spalls will be tolerated but no major imperfections, honeycombs, or other defects shall be permitted.
 3. Special finishes:
 - a. Troweled, broom or other finishes shall be according to the requirements of project documents and performed per industry standards or supplier specifications.
 - b. Precast concrete producers shall submit finishes for approval when required by the project documents. The sample finishes shall be approved prior to the start of production.
- D. Patching and Repairs
1. No repair is required to formed surfaces that are relatively free of air voids and honeycombed areas, unless the surfaces are required by the design to be finished.
 2. Repairing Minor Defects - Defects that will not impair the functional use or expected life of a manufactured precast concrete product may be repaired by any method that does not impair the product.
 3. Repairing Honeycombed Areas - When honeycombed areas are to be repaired, all loose material shall be removed and the areas cut back into essentially horizontal or vertical planes to a depth at which coarse aggregate particles break under chipping rather than being dislodged. Proprietary repair materials shall be used in accordance with the manufacturer=s instructions. If a proprietary repair material is not used, the area shall be saturated with water and, immediately prior to repair, the area should be damp, but free of excess water. A cement-sand grout or an approved bonding agent shall be applied to the chipped surfaces, followed immediately by consolidating an appropriate repair material into the cavity.
 4. Repairing Major Defects - Defects in precast concrete products which impair the functional use or the expected life of products shall be evaluated by qualified personnel to determine if repairs are feasible and, if so, to establish the repair procedure.

2.03 MATERIALS

- A. Concrete - Concrete shall be a uniform mix of quality materials listed in Article 2.4. Mix proportions shall be determined by following the standards in ACI 318 Chapter 5. Recommendations for selecting proportions for concrete are given in detail in Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete (ACI 211.1). Recommendations for lightweight concrete are given in Standard Practice for Selecting proportions for Structural Lightweight Concrete (ACI 211.2).

1. Water-Cement Ratio
 - a. Concrete that will be exposed to freezing and thawing shall contain entrained air and shall have water-cement ratios of 0.45 or less. Concrete which will not be exposed to freezing, but which is required to be watertight, shall have a water-cement ratio of 0.48 or less if the concrete is exposed to fresh water, or 0.45 or less if exposed to brackish water or sea water. For corrosion protection, reinforced concrete exposed to deicer salts, brackish water, or seawater shall have a water-cement ratio of 0.40 or less.
2. Air Content
 - a. The air content of concrete that will be exposed to freezing conditions shall be within the limits given in Table 1.

Table 1. Total Air Content For Frost-Resistant Concrete

| Nominal Maximum Aggregate Size (Inches) | Air Content, % | |
|-----------------------------------------------|-----------------|-------------------|
| | Severe Exposure | Moderate Exposure |
| 3/8 | 6.0 to 9.0 | 4.5 to 7.5 |
| 1/2 | 5.5 to 8.5 | 4.0 to 7.0 |
| 3/4 | 4.5 to 7.5 | 3.5 to 6.5 |
| 1 | 4.5 to 7.5 | 3.0 to 6.0 |
| 1 1/2 | 4.5 to 7.5 | 3.0 to 6.0 |

(a) *For specified compressive strengths greater than 5000 psi, air content may be reduced 1%.

3. Compressive Strength
 - a. All concrete shall develop a minimum compressive strength of 4000 psi in 28 days unless other strengths are designated on the drawings.
- B. Portland Cement: ASTM C150, Type I, II, III, or V
- C. Aggregates: ASTM C33 or C330.
- D. Water: Potable or free of deleterious substances in amounts harmful to concrete or embedded metals.
- E. Admixtures:
 1. Air-entraining: ASTM C260
 2. Water reducing, retarding, accelerating, high range water reducing: ASTM C494
 3. Pozzolans, fly ash and other mineral admixtures: ASTM C618
 4. Ground granulated blast furnace slag: ASTM C989
 5. Pigments: Non-fading and lime-resistant

2.04 REINFORCEMENT AND CONNECTION MATERIALS

- A. Provide all reinforcement, accessory and connection materials required. Concrete reinforcement shall be steel bars or welded wire fabric, or a combination thereof.
- B. Reinforcing Bars:
 1. Deformed Billet-steel: ASTM A615
 2. Deformed Rail-steel: ASTM A616
 3. Deformed Axle-steel: ASTM A617
 4. Deformed Low-alloy steel: ASTM A706
- C. Reinforcing Wire:
 1. Plain Wire: ASTM A82
 2. Deformed Wire: ASTM A496
- D. Welded Wire Fabric:
 1. Plain Wire: ASTM A185
 2. Deformed Wire: ASTM A497

- E. Epoxy Coated Reinforcement:
 - 1. Reinforcing Bars: ASTM A775
 - 2. Wires and Fabric: ASTM A884
- F. Galvanized Reinforcement:
 - 1. Reinforcing Bars: ASTM A767
- G. Inserts and Embedded Metal - All items embedded in concrete shall be of the type required for the intended task, and meet the following standards:
 - 1. Structural steel plates, angles, etc: ASTM A36
 - 2. Proprietary items: In accordance with manufacturers published literature
 - 3. Welded studs: AWS D1.1
 - 4. Finishes (as required):
 - a. Shop primer: Manufacturers' standards
 - b. Hot-dipped galvanized: ASTM A152
 - c. Zinc-rich coating: MIL-P-2135 self-curing, one component, sacrificial
 - d. Cadmium coating: Manufacturers' recommendations
- H. Joint Sealant and Joint Gaskets:
 - 1. Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets: ASTM C443.
 - 2. External Sealing Bands for Non-circular Sewer, Storm Drain, and Culvert Pipe: ASTM C877.
 - 3. Joints for Concrete Pipe, Manholes, and Manufactured Box Sections Using Preformed Flexible Joint Sealants: ASTM C990
 - 4. Specification for Elastomeric Joint Sealants: ASTM C920
- I. Pipe Entry Connectors:
 - 1. Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals: ASTM C923.
- J. Grout:
 - 1. Cement grout: Portland cement with enough water for the required strength and sand for proper consistency. May contain mineral or chemical admixtures, if approved by Owner's representative.
 - 2. Non-shrink grout: Premixed, packaged expansive and non-expansive shrink-resistant grout.

2.05 FABRICATION

- A. Forms for manufacturing precast concrete products shall be of the type and design consistent with industry standards. They should be capable of consistently providing uniform products and dimensions. Forms shall be constructed so that the forces and vibrations to which the forms will be subjected can cause no product damage.
 - 1. Forms shall be cleaned of concrete build-up after each use.
 - 2. Form release agents shall not be allowed to build up on the form casting surfaces.
- B. Reinforcement
 - 1. Cages of reinforcement shall be fabricated either by tying the bars, wires or welded wire fabric into rigid assemblies or by welding where permissible in accordance with AWS D1.4. Reinforcing shall be positioned as specified by the design and so that the concrete cover conforms to requirements. The tolerance on concrete cover shall be one-third of that specified but not more than 1/2 in. Concrete cover shall not be less than 1/2 in. Positive means shall be taken to assure that the reinforcement does not move significantly during the casting operations.
- C. Embedded Items
 - 1. Embedded items shall be positioned at locations specified in the design documents. Inserts, plates, weldments, lifting devices and other items to be imbedded in precast concrete products shall be held rigidly in place so that they do not move significantly during casting operations.

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D. Placing Concrete

1. Concrete shall be deposited into forms as near to its final location as practical. The free fall of the concrete shall be kept to a minimum. Concrete shall be consolidated in such a manner that segregation of the concrete is minimized and honeycombed areas are kept to a minimum. Vibrators used to consolidate concrete shall have frequencies and amplitudes sufficient to produce well consolidated concrete.
2. Cold Weather Requirements - Recommendations for cold weather concreting are given in detail in Cold Weather Concreting reported by ACI Committee 306.
 - a. Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near-freezing weather.
 - b. All concrete materials and all reinforcement, forms, fillers, and ground with which concrete is to come in contact shall be free from frost.
 - c. Frozen materials or materials containing ice shall not be used.
 - d. In cold weather the temperature of concrete at the time of placing shall not be below 45° F. Concrete that freezes before its compressive strength reaches 500 psi shall be discarded.
3. Hot Weather Requirements - Recommendations for hot weather concreting are given in detail in Hot Weather Concreting reported by ACI Committee 305.
 - a. During hot weather, proper attention shall be given to ingredients, production methods, handling, placing, protection, and curing to prevent excessive concrete temperatures or water evaporation that could impair required strength or serviceability of the member or structure. The temperature of concrete at the time of placing shall not exceed 90° F.

E. Curing

1. Curing by Moisture Retention - Moisture shall be prevented from evaporating from exposed surfaces until adequate strength for stripping (Article 2.6, paragraph F) is reached by one of the following methods:
 - a. Cover with polyethylene sheets a minimum of 6 mils thick.
 - b. Cover with burlap or other absorptive material and keep continually moist.
 - c. Use of a membrane-curing compound applied at a rate not to exceed 200 sq. ft. per gallon, or per manufacturers' recommendations.
2. Surfaces that will be exposed to weather during service shall be cured as above a minimum of 3 days. Forms shall be considered effective in preventing evaporation from the contact surfaces. If air temperature is below 50° F the curing period shall be extended.
3. Curing with Heat and Moisture
 - a. Concrete shall not be subjected to steam or hot air until after the concrete has attained its initial set. Steam, if used, shall be applied within a suitable enclosure, which permits free circulation of the steam. If hot air is used for curing, precautions shall be taken to prevent moisture loss from the concrete. The temperature of the concrete shall not be permitted to exceed 160° F. These requirements do not apply to products cured with steam under pressure in an autoclave.

F. Stripping Products from Forms

1. Products shall not be removed from the forms until the concrete reaches the compressive strength for stripping required by the design. If no such requirement exists, products may be removed from the forms after the final set of concrete provided that stripping damage is minimal.

G. Shipping Products

1. Products shall not be shipped until they are at least 5 days old, unless it can be shown that the concrete strength has reached at least 75% of the specified 28-day strength, or that damage will not be caused which will impair the performance of the product.

2.06 SOURCE QUALITY CONTROL

- A. Fabricate units in accordance with ACI 318 and the National Precast Concrete Association's Quality Control Manual for Precast Plants.

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PART 3 - EXECUTION

3.01 INSTALLATION

- A. Site Access
 - 1. General contractor shall be responsible for providing adequate access to the site to facilitate hauling, storage and proper handling of the precast concrete products.
- B. Installation
 - 1. Precast concrete products shall be installed to the lines and grades shown in the contract documents or otherwise specified.
 - 2. Products shall be lifted by suitable lifting devices at points provided by the precast concrete producer.
 - 3. Products shall be installed per the precast concrete producer's recommendation.
- C. Water tightness
 - 1. Where water tightness is a necessary performance characteristic of the precast concrete product's end use, watertight joints, connectors and inserts should be used to ensure the integrity of the entire system.

3.02 FIELD QUALITY CONTROL

- A. Site tests - when testing is required for an underground product, one of the following methods need to be followed:
 - 1. Vacuum testing prior to backfill according to ASTM C1244.
 - 2. Water testing according to contract documents and precast concrete producer's recommendations.

END OF SECTION

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**SECTION 31 1010
CLEARING**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Included in this section is the clearing to be completed on the project in the work areas.

1.02 RELATED REQUIREMENTS

- A. Section 01 5010 - Construction Facilities and Temporary Controls: Site fences, security, protective barriers, and waste removal.
- B. Section 01 5713 - Temporary Erosion and Sediment Control.
- C. Section 31 2200 - Grading: Topsoil removal.
- D. Section 31 2323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 MEASUREMENT AND PAYMENT

- A. Clearing and Grub Tree/Stump: Includes removal of trees and stumps 6 inches in diameter or larger.
 - 1. Payment will be taken to be included in the Contract Unit Prices for the various bid items to which it relates.
- B. Clearing: By lump sum. Includes removal of trees and stumps less than 6 inches in diameter and any other vegetation designated for removal.
 - 1. No direct measurement of quantities will be made for this work.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 EXISTING UTILITIES AND BUILT ELEMENTS

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Protect existing structures and other elements that are not to be removed.

3.02 CLEARING

- A. Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 12 inches or more in diameter and shall be trimmed of all branches to the heights indicated or directed.
- B. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 12 inches in diameter shall be painted with an approved tree-wound paint. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work.

3.03 GRUBBING

- A. Material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground in the construction areas under this contract, such as areas for buildings, and areas to be paved. Depressions made by grubbing shall be filled with suitable

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material and compacted to make the surface conform with the original adjacent surface of the ground.

304 CLEARING AND GRUBBING AREA

- A. It is the intent of the work to minimize clearing and grubbing. The Engineer will designate the work area limits. Disturbed perennial plants and bushes outside the area shall be replaced by the Contractor under this section.

305 DISPOSAL OF MATERIALS

- A. Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing and grubbing operations shall be disposed of outside the limits of the project by the Contractor.
- B. Do not burn, bury, landfill, or leave materials to be cleared or grubbed on site.
- C. Dead Wood: Remove all dead trees (standing or down), limbs, and dry brush on entire site.
- D. Remove debris, junk, and trash from site.
- E. Leave site in clean condition, ready for subsequent work.
- F. Clean up spillage and wind-blown debris from public and private lands.
- G. All material generated by this project must be disposed of at a permitted site. Depending on what material is generated and whether it is contaminated or uncontaminated will determine which permitted facility can accept it. Permitted facilities include construction and demolition debris sites, restricted use sites, and regional landfills. Contact the SD DENR Waste Management Program at 605-773-3153 to identify locally permitted disposal sites for various categories of contaminated and uncontaminated soils.

END OF SECTION

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**SECTION 31 2322
TRENCHING, BACKFILLING, AND COMPACTING**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work covered in this section includes excavation of all necessary trenches for construction of underground utilities and the backfilling of the same trenches after the utility has been properly constructed and tested in accordance with applicable codes and regulations and related specification sections as identified.

1.02 ADDITIONAL REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01 5713 - Temporary Erosion and Sedimentation Control: Slope protection and erosion control.
- B. Section 32 9210 - Seeding and Fertilizing

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 33 1120 - Water Mains and Appurtenances
- B. Section 33 3110 - Wastewater Piping and Appurtenances

1.04 MEASUREMENT AND PAYMENT

- A. Trench excavation and backfilling of materials classified as "Earth Excavation" will not be measured or paid for directly. Payment shall be included in the pipeline bid items to which it relates.
- B. Rock Excavation, as defined in these specifications, that is associated with trench excavation and backfilling for pipelines, will be measured separately in cubic yards of volume within the trench limits. Payment for Rock Excavation which is properly classified by the Engineer during construction, measured by the Engineer, and approved for payment will be paid as an additional payment made to the Contractor in accordance with the "extra work" provisions of the General Conditions of the contract.
- C. Gravel Bedding Material will be measured and paid for on a unit price basis, if a bid item is provided. Otherwise, gravel bedding shall be incidental to the various contract items.
- D. Foundation Material: If the Engineer/Owner agree to and specifically authorize the use of Foundation Material as identified in this specification section, the Engineer will measure and document the placement of such foundation material and payment for such will be on a cubic yard basis, a unit price to be agreed to prior to the use of the material by the Owner, Engineer, and Contractor.
- E. Dewatering:
 - 1. Measurement Method: Lump Sum. Service line dewatering incidental to main line dewatering where installed in conjunction with main line.
 - 2. Includes: Furnishing, installing, maintaining of the trench dewatering, and all appurtenances necessary for the proper operation of trench dewatering.

1.05 REFERENCES

- A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010
- B. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2006.
- C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)); 2012.
- D. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.

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- E. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2012.
- F. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010

1.06 SUBMITTALS

- A. Submit gradation reports for bedding materials.
- B. Submit compaction density test reports.
- C. Dewatering Plan: Methods for performing trench dewatering.

PART 2 - PRODUCTS

2.01 FOUNDATION MATERIAL

- A. 1 1/2-inch uniformly-graded coarse aggregate conforming to ASTM C-33, "Standard Specification for Concrete Aggregate" grading size No. 4 or other material specifically approved by the Engineer. The following sieve analysis is listed as size No. 4 in ASTM C-33.

| <u>Sieve Size</u> | <u>Total Passing by Sizes (Percent by Weight)</u> |
|-------------------|-------------------------------------------------------|
| 2 inch | 100% |
| 1 1/2 inch | 90% to 100% |
| 1 inch | 20% to 55% |
| 3/4 inch | 0% to 15% |

Note: Foundation material will be crushed when used as subsoil stabilization for manhole and structures.

- B. The Engineer must approve foundation materials before materials are ordered. Foundation materials will be used for stabilization of unstable trench bottoms only, and may not be required.
 - 1. Refer to paragraph 3.4.A for description of procedure for using foundation material.

2.02 GRAVEL BEDDING

- A. Imported aggregate conforming to the following gradation material: Type "A"

| <u>Sieve Size</u> | <u>Total Passing by Sizes (Percent by Weight)</u> |
|-------------------|-------------------------------------------------------|
| 3/4 inch | 90% to 100% |
| #4 | 50% to 78% |
| #8 | 37% to 67% |
| #40 | 13% to 35% |
| #200 | 4% to 12% |

- B. Imported aggregate conforming to the following gradation material: Type "B"

| <u>Sieve Size</u> | <u>Total Passing by Sizes (Percent by Weight)</u> |
|-------------------|-------------------------------------------------------|
| 1 inch | 100% |
| ¾ inch | 80% to 90% |
| 3/8 inch | 20% to 55% |
| #4 | 0% to 10% |
| #8 | 0% to 5% |

- C. All bedding material must be approved by the Engineer before it is ordered. Gravel bedding materials are required for all pipeline installation.
 - 1. Refer to 3.6.B for description of procedures for using Gravel Bedding.

2.03 PIPE BEDDING MATERIAL

- A. Pipe Bedding Material - Minus 1" material with not more than 10% passing the #200 sieve.
- B. If Contractor users alternate pipe materials, Contractor to use bedding and backfill material as specified by pipe manufacturer.

2.04 SANITARY SEWER BEDDING MATERIAL

- A. 95% passing ¾" sieve
- B. 95% retained #4 sieve
- C. Clean well-graded crushed stone

2.05 BACKFILL MATERIALS

- A. All materials required for backfilling shall be obtained from the trenching operations. Fill material which is not capable of being properly placed and compacted shall not be used.
- B. Backfill material shall not contain debris, frozen material, large clods or stones, organic matter, or other unstable material. Stones larger than three inches (3") in diameter shall not be placed within two feet (2') of the top of any pipe.

PART 3 - EXECUTION

3.01 CLEARING AND GRUBBING

- A. Prior to stripping topsoil, remove trees, stumps, roots, rocks, trash, fencing, and other objectionable material in the work area.
- B. Dispose of cleared material lawfully away from the project site.
- C. Sod and/or crop residue may remain in place to be stripped along with the topsoil.
- D. Limit clearing operations to the areas indicated on the drawings and do not disturb vegetation outside of the work area.
- E. Remove excavated material that is unsuitable for re-use from site.

3.02 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.

3.03 PREPARATION

- A. Identify required lines, levels, contours, and datum locations.
- B. Locate, identify, and protect utilities that remain and protect from damage.
- C. Notify utility company to remove and relocate utilities.
- D. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Protect plants, lawns, rock outcroppings, and other features to remain.

3.04 SALVAGING TOPSOIL

- A. Remove topsoil from all areas within the construction limits shown on the drawings which will be disturbed by trenching or other construction.
- B. Remove topsoil to its entire depth, or to a depth which will provide the quantity required for topsoiling as part of finish grading operations.
- C. Stockpile topsoil in convenient locations for subsequent spreading and placing.

3.05 TRENCH EXCAVATION

- A. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- B. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.

- C. Methods. Except as shown otherwise on the drawings, all trench excavation shall be by open cut. The Engineer may grant permission to tunnel under walks, curbs, and other utility installations. Such tunnels shall not exceed 10 feet in length. Trench to depths and configurations shown on the drawings or specified.
1. Limit length of trench open at any one time to no more than that necessary to lay pipe, backfill, and compact in one continuous operation.
 2. Limit trenching operations affecting access to streets and drives to two (2) adjacent city blocks at any one time. Restore access to street and drives in one area before proceeding with trenching in another area.
 3. When trench excavation is through grassed or cultivated areas, strip all topsoil over the trench to its entire depth, or 4", whichever is greater. Stockpile this topsoil separately from other excavated material and replace at the surface after pipe installation and backfilling.
 4. When trench excavation is through asphaltic pavements or concrete pavements, the existing pavement structure shall be sawcut full length in advance of trench excavation to confine pavement damage and removal to the limits of the trench.
 - a. Pavement shall be sawcut a horizontal distance of 12" from the edge of the trench excavation and to the full depth of the pavement.
 - b. If the pavement edge is to be resawed prior to placing the finished pavement, the initial sawcut may be closer than 12" to the edge of the trench.
 5. With prior approval of the Engineer and Owner, the Contractor may elect to cross paved roadways using bored casings. The locations where boring is the required crossing method are shown on the drawings; however the Contractor may elect to use bored crossings at other locations. No additional payment will be made for bored crossings completed at the discretion of the Contractor.
 6. When excavating through gravel roadway surfacing, care shall be taken to limit contamination of adjacent gravel surfaces with excavated materials. Unless authorized otherwise by the Engineer, gravel surfacing shall not be salvaged and used for resurfacing at the completion of backfilling.
- D. Classified Excavation: Excavation for pipelines and appurtenant structures, such as manholes, will be classified as "Earth" or "Rock". The cost of "Earth Excavation" is to be included in the installed pipe cost as included in the Proposal. "Rock Excavation" will be paid for separately, over and above the cost of earth excavation when such rock removal conforms to the stipulations included herein.
1. Excavation will be categorized for payment purposes according to the following criteria:
 - a. Earth Excavation:
 - 1) Earth excavation shall include all materials not having properties required for classification as rock excavation. Earth excavation shall include all loose, broken, and/or laminated rock or stone and boulders which can reasonably be broken, plowed, ripped, or removed using power driven excavating equipment, skillfully operated and having comparable capabilities as a normal excavating machine. A normal excavating machine will be considered to be a tracked hydraulic backhoe with 3/4 CY capacity.
 - 2) Soft sandstone, shale, or similarly stratified material which can reasonably be broken and removed by a normal excavating machine will not be classified or paid for as "Rock Excavation".
 - 3) Large boulders which can reasonably be broken and/or removed by a normal excavating machine will not be classified or paid for as "Rock Excavation". A 2 1/2 foot square boulder weighing up to 2500 lbs. will be considered as the upper limit as to pieces of excavated material which can reasonably be removed with an excavating machine.
 - b. Rock Excavation:
 - 1) Rock excavation shall include solid rock masses which cannot be broken, plowed, ripped, and removed by power excavating equipment as described above in "Earth Excavation", and must be loosened by blasting for

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removal. Rock excavation will also include individual boulders or stones which, because of size or positioning in the trench, require blasting for removal. Payment for blasted rock excavation will be made only for volumes within trench limits specified hereinafter, except that payment for any one successful blasting operation shall be for not less than one cubic yard. For payment purposes, the maximum authorized trench width will not exceed the trench width specified and the maximum depth will not be more than 4 inches below the plan elevation of the bottom of the pipe. At locations where two pipelines occupy the same trench, and additional trench width is required in conformity with trench details shown on the plans, the maximum width for rock excavation payment will be the maximum width indicated by the detail drawing. At manholes where a wider than normal trench is required, the pay limit for rock excavation will be 1.5 feet greater than the O.D. of the manhole barrel.

- 2) For blasting operations, suitable weighted plank coverings or mattresses shall be provided to confine all materials lifted by blasting to within the limits of the trench. The Contractor shall comply with laws, ordinances, applicable safety codes, and regulations relative to handling, storage and use of explosives and protection of life and property. The Contractor will be responsible for any damage caused by blasting operations. The Contractor will be required to demonstrate that he is in compliance with applicable laws, rules and regulations, and that he has the required expertise in advance of any blasting work.
- 3) As rock excavation is encountered, the Engineer's designated construction observer and Contractor's representative must agree that such material to be excavated is to be classified as "Rock Excavation." At the end of each day's work, the observer will calculate and inform the amount of rock excavated for payment purposes. Any dispute regarding rock excavation quantities or classification must be brought to the attention of the Engineer not later than one working day after the excavation has been performed, otherwise the Observer's calculated quantities will be considered to be final.

c. Trench Stabilization: If the Engineer determines that the base is unstable, the trench shall be undercut and stabilized with Trench Stabilization Material.

- E. Trench Width: The minimum clear trench width measured at the top of the pipe barrel shall be not less than the outside pipe diameter, plus 16 inches or such width as is approved by the Engineer which is demonstrated to allow the proper positioning and bedding of pipe.
1. For pipe less than 30-inch diameter, the maximum clear trench width measured at a point 12 inches above the top of the pipe barrel shall not be greater than the outside pipe diameter, plus 24 inches.
 2. For pipe 30-inch diameter or greater, the maximum clear trench width measured at a point 12 inches above the top of the pipe barrel shall not be greater than the 1.5 times the outside pipe diameter.
 3. If, by exceeding the maximum trench width, the Engineer determines that backfilling will exceed the safe loading on the pipe, remedial measures such as cradling the pipe in concrete or gravel will be required. The cost of any remedial measures will be at the Contractor's expense.
- F. Trench Walls: Generally, the Contractor will be required to keep the sides of the trench excavation vertical by bracing or sheeting, either movable or stationary. Failure to properly brace and sheet trenches will be at the risk of the Contractor. Where such failure results in the slides or caving producing displacement of the pipe, the Contractor will be required to remove and replace the pipe in a manner approved by the Engineer without extra compensation.
1. Where surface conditions allow, the Contractor will be permitted to slope or bench the trench side walls. When trench sidewalls are sloped or benched, the sloping or benching shall terminate at a depth not less than one foot above the top of the pipe barrel and from that point down the trench wall shall be vertical. If sloping or benching is employed by the

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- Contractor, care shall be taken to confine the entire trenching operations to right-of-way or easement limits as shown on the drawings.
2. A clear area shall be maintained a sufficient distance back from the top edge of the excavation to avoid overloading which may cause slides or caving of the trench walls.
 3. Nothing in these specifications is intended to preclude the use of trenching machinery of the continuous chain and bucket or wheel type when such equipment can achieve desired results.
- G. Trench Depth: In excavating for pipe, the trench ahead of the pipe shall not be excavated below the elevation necessary to provide for the specified thickness of bedding material, if required, below the bottom of the pipe. Should the trench be excavated to a greater depth than required to provide the proper bedding thickness, the Contractor will refill it to grade at his own expense with good, well-tamped material, approved by the Engineer. If suitable material is not available from the project work, it will be necessary for the Contractor to bring in material from another locality or to purchase suitable material to provide an unyielding bed for the pipe.
1. When an unstable trench bottom is encountered at the planned pipe depth, the trench shall be over-excavated and gravel "Foundation Material" placed as described in paragraph 3.6.A.
- H. Shoring: As needed, all trench sidewalls shall be properly sheeted and braced to furnish safe working conditions. The shoring shall be arranged so as not to place any stress on portions of the completed work until the general construction thereof has proceeded far enough to provide ample strength. Any damage to pipes or structures occurring through settlements, heaving, water or earth pressures, slides, caving or other causes, due to lack of sheeting or bracing, or due to failure of shoring or due to improper shoring or due to any other negligence on the part of the Contractor shall be repaired by the Contractor at his own expense.
1. The Contractor shall be solely responsible for the safe execution of his work. The Contractor shall take all precaution necessary, at his own expense, to accomplish the work without damage to facilities or injury to persons.
- I. Removal of Water: The Contractor shall provide and maintain at all times ample means and devices with which to remove promptly and to properly dispose of all water entering the trench excavation.
1. Water shall be disposed of in a suitable manner without damage to adjacent property.
 2. The Contractor shall be responsible for selecting the trench dewatering method, but the selected method must permit placing of pipe bedding materials in a stable unwatered condition. The Engineer may require that alternate dewatering procedures be used if, in his opinion, the procedure used by the Contractor does not provide a suitable foundation for the pipe. The Contractor is responsible to obtain any permits for dewatering through SDDENR at 605-773-3351.

3.06 BEDDING AND BACKFILLING PIPING

- A. Foundation Material: In the event the trench is required to be over-excavated because an unstable foundation is encountered, the Contractor shall excavate the unstable material and backfill the overexcavation with "Foundation Material." The required depth of stabilization shall be determined by trial and observation on the job and is subject to approval of the Engineer.
1. Foundation material shall not be used unless specifically authorized by the Engineer.
 2. If the use of foundation material is authorized by the Engineer, additional payment will be made to the Contractor in accordance with the "extra work" provisions of the General Conditions of the Contract.
- B. Gravel Bedding: As required by the trench detail on the plans, pipes shall be bedded on gravel bedding.
1. Placement of gravel pipe bedding shall conform to the detail drawings. The bedding shall be compacted by vibratory tampers, tee bars, or other approved methods. The method of compaction shall insure proper placement of the bedding below the pipe haunches and along the sides of the pipe.

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2. Bedding materials other than those specified, when approved by the Engineer, may require extra compactive effort. Relative density acceptance tests may be required to confirm the adequacy of construction practice. Compaction is not acceptable if voids or areas of unconfined bedding material are located by simple manual inspection beneath the pipe barrel.
- C. Select Soil Bedding From Excavated Material:
1. When the material removed by trench excavation is determined suitable by the Engineer, select native material excavated from the trench may be used for bedding of the pipe in lieu of imported gravel bedding as may be shown on the trench detail in the project drawings. Select soil bedding shall consist of select earth, sand, or fine gravel material free from clods, stones, or lumps larger than 1-inch maximum dimension. The Contractor, at his option, may perform screening or sorting of material obtained from the trench excavation to use as select bedding material meeting the requirements described above. Select soil bedding material shall be placed and thoroughly compacted below and on each side of the pipe to the depth indicated on the plan drawings and details.
 2. When the trench detail calls for overexcavation to provide for the required thickness of select material below the pipe, the Contractor may, as an alternative, provide a shaped trench bottom conforming to the bottom of the pipe. The shaped bottom may be formed by a trencher "crumbing shoe" or equivalent device which provides for uniform sidewall support along the pipeline. Excavations for pipe bells must be provided so that the pipe barrel will be uniformly supported along its entire length. A shaped bottom will not be permitted in lieu of bedding if the soil character does not provide a bottom which is free of clods, stones, or other material which interferes with pipe sidewall support.
- D. Specially Placed Backfill: After the specified gravel bedding or select soil bedding has been placed and has been approved, and after the pipe has been installed and approved, the pipe trench shall be backfilled with "Specially Placed Backfill." Such backfill shall consist of suitable approved fine material, taken from the excavated earth and having no stones greater than 1-inch diameter.
1. Unless otherwise shown on the drawings and/or described herein, this backfill shall be placed in lifts not exceeding 8" loose thickness and compacted in place to an elevation 12 inches above the top of the pipe. This backfill shall be placed and consolidated along the sides and over the top of the pipe in distinct separate lifts not to exceed 8" of loose depth. All backfill material shall be free of frozen material, organic material, and debris. Specially placed backfill shall be compacted to a density not less than 95% of the maximum dry density as determined by ASTM D698 (Standard Proctor).
- E. Normal Backfill: Unless otherwise shown on the drawings and/or described herein, all backfill placed above the "Specially Placed Backfill" shall be considered as normal backfill and will consist of excavated material obtained from the trench excavation. No stones 3" or greater in diameter shall be placed in the first 12" of the normal backfill layer.
1. Backfill methods, procedures and equipment shall be at the discretion of the Contractor as long as the backfill is compacted to a density not less than indicated in the following table. Backfill shall be compacted in lifts not exceeding 8" loose thickness in areas under roadway and driveways.

| Location | % of Max. Dry Density (ASTM D698 Standard Proctor) |
|-----------------------------------------------------------------------------------|-------------------------------------------------------|
| Under streets, highways & driveways and within 10 feet of all pavements. | 95 |
| Turfed areas, areas not under pavements or driveways, or within 10' of pavements. | Native Material Density |

2. Native material density will be considered to be satisfactory replacement of excavated material in the trench, with proper allowance for volume of pipe and bedding materials.

F. Flowable Fill Concrete Backfill: Where indicated on the plans, pipeline trenches shall be backfilled using flowable fill concrete meeting the following mix requirements:

| <u>Material</u> | <u>Quantity per CY</u> |
|-----------------|------------------------|
| Cement | 60 lb. (Type II) |
| Fly Ash | 275 lb. |
| Sand | 2800 lb. |
| Water | 465 lb. (max.) |

1. 7 day compressive strength: 50 psi
2. 28 day compressive strength: 100 psi
3. Slump: >8"
4. Unless directed otherwise, the flowable fill backfill shall be placed in one continuous operation. Where earth backfill or surfacing is called for above the flowable fill, the fill shall be cured a minimum of 48 hours before placing earth backfill or surfacing.

G. Maintenance of Backfill: All backfill shall be maintained in a satisfactory condition, and all places showing signs of settlement shall be filled and maintained during the life of the contract and for a period of one (1) year following the date of final acceptance of all work performed under the Contract. When backfill settlement creates a hazardous condition, the Contractor shall correct such hazardous condition immediately.

3.07 PROTECTION OF EXISTING FACILITIES

- A. Support and protect all existing facilities encountered or adjacent to trenching operations, unless such facilities are indicated to be removed. Such facilities may include buildings, power lines, telephone lines, shrubbery, water lines, gas lines, sewer lines, cables, conduits, ditches, embankments, traffic signs, mailboxes, fences, posts, culverts, curbs, and others. Contractor shall be liable for any and all damages to such existing facilities and he shall hold harmless the Owner from any liability, damages, repairs, or expense for injury to such facilities during the construction work. Location of underground utilities which may interfere with pipe alignment and grade shall be verified by exploratory digging prior to construction in the vicinity.
- B. Where trenching operations require temporary removal of surface obstruction or existing facilities, the Contractor shall carefully remove and reinstall each item at completion of backfilling. The cost of such temporary removal and reinstallation will be considered a subsidiary obligation to trenching work and no separate payment will be provided.
- C. Underground Utilities: The type, size, and number of known underground utilities have been shown on the drawings; however, no guarantee is made as to the true type, size, location, or number of such utilities. It shall be the Contractor's responsibility to determine the existence and location of all underground utilities. The omission from, or the inclusion of, utility locations on the drawing is not to be considered as the nonexistence of, or a definite location of, existing underground utilities. Contractor shall notify Engineer when a utility is encountered during construction. Backfilling shall not be permitted until Engineer has had an opportunity to make visual and written record of utility location and condition.
- D. If subsurface obstructions, or conflicting utilities require that the obstruction or utility be moved or temporarily supported, the Contractor shall make arrangements with the appropriate utility company ahead of construction for such work. Payment for such work shall be incidental to the bid items involved. Failure to coordinate utility relocations or supports shall not justify any time extensions or adjustment of contract price.

3.08 MAINTENANCE OF TRAFFIC

- A. The Contractor shall provide traffic control as indicated on the plan drawings and in accordance with the project specifications.

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- B. The Contractor shall construct, maintain barricades and provide flagmen wherever necessary to expedite the work or to maintain traffic, and provide temporary bridges or crossing of ample size, to safely carry the loads which may come upon them. The cost of all labor, material, tools, and equipment for temporary bridges and crossings, shall be borne by the Contractor, and no separate or additional payment will be made therefore.

3.09 FIELD QUALITY CONTROL

- A. Where embankment or backfill is required to be compacted to a specified density, tests for compliance may be made by the Engineer or other Owner-designated representative, at the expense of the Owner, using the appropriate test procedures.
- B. Field density tests will be performed in accordance with test procedures established in "Standard Test Methods for Density of Soil in Place by the Sand Cone Method" ASTM D-1556, or "Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)," ASTM D-2922.
- C. The Contractor shall cooperate with testing by the Engineer or other Owner-designated representative by allotting sufficient time for testing each layer. Any layer that does not meet density requirements shall be reworked and recompacted until it meets the specified density.
- D. Retesting of noncomplying embankment or backfill will be at the Contractor's expense.
- E. Frequency of Tests: Minimum of two (2) tests per block per type of piping. Notify Engineer in advance of all tests.
- F. Submit two (2) copies of a written report to the Engineer detailing procedures and results of all tests.

3.10 CLEANING

- A. Surface Restoration: Remove unused stockpiled materials, leave area in a clean and neat condition. Unless otherwise provided for, restore the surface to as nearly as possible the condition that existed prior to construction and grade area to prevent standing surface water.
- B. Replace topsoil that was stripped and separately stockpiled at the beginning of trench work.
- C. Where shown on the plans, the Contractor shall provide embankment over the pipe to provide minimum pipe cover. Construct embankments to the cross-section indicated on the Plans. No separate or additional compensation for embankment will be made unless a specific bid item is included in the Proposal.
- D. Turfed Areas: Level all previously grassed areas with topsoil salvaged from trenching operations. Topsoil shall be raked clean and conform with preconstruction contours, except that a free draining condition shall be provided regardless of preconstruction conditions. Remove rocks larger than 1" in any dimension from areas to be seeded by mechanical raking and/or hand picking. Seed disturbed areas as set forth in the plan notes.

END OF SECTION

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**SECTION 33 1120
WATER MAINS AND APPURTENANCES**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Water distribution line construction, including pipe and fittings.
- B. Valves and fire hydrants.
- C. Connection of building water service system to municipal water mains.

1.02 ADDITIONAL REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01 3240 - Shop Drawings, Product Data, and Samples
- B. Section 01 4010 - Quality Control

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 03 3010 - Cast-In-Place Concrete: Concrete for thrust blocks
- B. Section 31 2322 - Trenching, Backfilling, and Compacting: Excavating, bedding, and backfilling.

1.04 MEASUREMENT AND PAYMENT CONDITIONS

- A. Water Mains:
 - 1. Pipelines will be measured by the horizontal linear foot of installed pipe, including measurement through valves and fittings.
 - 2. Payment will be at the contract unit price per foot of pipe actually furnished and installed.
 - 3. Payment will be considered full compensation for the complete pipe installation including trenching, pipe laying, bedding, backfilling, testing, disinfecting, subsidiary work required by the plans and specifications, and restoring the surface if not specifically described elsewhere as a separate pay item.
- B. Pipe Fittings:
 - 1. Pipe fittings for water mains will be measured by the unit each for each type and size of fitting furnished and installed.
 - a. Fittings not listed as bid items will be absorbed into other items unless work is added for or deleted from this project.
 - 2. Payment will be at the contract unit price per each fitting of the respective type and size.
 - 3. Payment will include full compensation for furnishing and installing the fitting and thrust blocking or joint restraint system.
- C. Gate Valves and Boxes:
 - 1. Gate valves will be measured by the unit each for each respective size.
 - 2. Payment will be at the contract unit price for each valve and valve box.
 - 3. Payment will include full compensation for furnishing and installing valves, thrust blocking, valve box adaptor, and valve boxes and lids.
- D. Valve Box Adjustment: By the unit.
- E. Fire Hydrants:
 - 1. Furnishing and installing fire hydrant will be measured by the unit each.
 - 2. Payment will be at the contract unit price per each hydrant installation.
 - 3. Payment will be full compensation for excavating, furnishing and installing hydrant, thrust blocking, gravel drain, backfilling, and all subsidiary work. Pipe leads will be paid for separately as part of the pipe.
- F. Service Connections and Service Pipe:
 - 1. Furnishing and installing new service connections to water mains will be measured by the unit each for each respective size of service connection.

2. Payment will be at the contract unit price per each service for the bid items specified to complete the service.
 3. Payment will be full compensation for furnishing and installing the tapping saddle and corporation stop.
 4. Service pipe at each service connection will be measured and paid for by the linear foot, complete and in place.
- G. Curb Valves and Boxes:
1. Curb valves and boxes will be measured by the unit each for each respective size furnished and installed.
 2. Payment will be at the contract unit price per each curb stop with box.
 3. Payment will be full compensation for excavating, furnishing, and installing materials, backfilling, and subsidiary or related work.
- H. Pipe Insulation:
1. Pipe insulation will be measured on the horizontal and vertical face of insulation installed.
 2. Payment will be at the contract unit price per square foot for the thickness specified in the drawings for the material furnished and installed.
- I. Encasement Pipe: By the linear foot for casing, respective of types and sizes, including the end seals and casing spacers.
1. Casing Pipe: Includes furnishing and installing pipe by directional drilling, boring, jacking or tunneling, excavation and backfilling of bore pits, trench dewatering (unless otherwise specified), and all appurtenances necessary for the proper installation of the casing pipe.
 2. Carrier Pipe: Includes gaskets, grouting of the annular space (unless otherwise specified), and all appurtenances necessary for the proper installation of the carrier pipe. Furnishing and installing pipe will be paid for separately as part of the pipe.
 3. End Seals: Includes furnishing and installing seals and all appurtenances necessary for the proper installation of the end seals and casing spacers.
- J. Water Main Adjustment: By the unit. Respective of types and sizes.
- K. Water Service Reconnect: By the unit. Respective of types and sizes.
- L. Tracer Wire: By the linear foot. Includes wire, ground rods, splices, and accessories.

1.05 SUBMITTALS

- A. Product Data:
1. Provide dimensional data for all pipe, fittings, valves, and accessories.
 2. Descriptive literature and specifications for all products proposed for use on this project.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with municipality requirements.
- B. Regulatory Agencies: Pipe for potable water service shall bear the National Sanitation Foundation Seal.
- C. Source Quality Control: Pipe shall be clearly marked with pipe size, class, type, test pressure, and manufacturer's name.
- D. Reference Standards:
1. AWWA C900: PVC Pressure Pipe, 4" - 12", for water.
 2. ASTM D2241: PVC Pressure Pipe Class 200.
 3. 2" PVC Class 200 - SDR 21 Pipe for water.
 4. 2" Polyethylene - SDR 7, 200 psi.

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5. Current AWWA C605: Underground Installation of PVC Pressure Pipe & Fittings for Water.
6. AWWA C151 - 150 psi: Ductile Iron Pipe, AWWA C104: Cement - mortar lined, AWWA C105: 8 mil pipe & fitting wrapping, AWWA C115: Flanged ductile iron.
7. Criteria for Design of Public Water Supply Facilities in South Dakota.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store valves in shipping containers with labeling in place.
- B. Pipe and accessories shall be unloaded and stored at the job site in a manner that will not damage pipe or fittings.
- C. The Contractor is responsible for safe storage of all materials until they have been incorporated into the completed project.

PART 2 - PRODUCTS

2.01 PIPE MATERIALS

- A. Water Main Pipe: PVC with Gasketed Joints formed during manufacture.
 1. Integral bell and rubber ring gaskets, ASTM D1869 and F477.
 2. AWWA C900 Class 235 (SDR 18)
- B. Ductile Iron Pipe: AWWA C151, Class 350
 1. Lining: AWWA C104, cement mortar.
 2. Joints: AWWA C111, rubber gasket with rods. Mechanical joint with stainless steel bolts.
- C. Engineer approved equal.

2.02 FITTINGS:

- A. PVC Fittings:
 1. PVC fittings manufactured to tolerances of ASTM D2241 for IPS-PVC pipe.
 2. Gasketed push-on type joints which are an exact duplication of the bell and spigot fittings for the pipe.
- B. Ductile Iron Fittings:
 1. Mechanical joint short body fittings, AWWA C110 (Full Body), AWWA C153 (Compact), and AWWA C111.
 2. Bituminous exterior coating, cement mortar interior coating.
 3. Cor-Blue Nuts and Bolts or Engineer approved equal.
- C. Joint Restrainers/Harnesses:
 1. PVC Pipe: EBAA Series 6500 or Engineer approved equal.
 2. Retainer Glands for PVC Pipe and M.J. Bells: EBAA Series 2000 PV or Engineer approved equal.
 3. Retainer Glands for M.J. Ductile Iron Pipe Fittings: EBAA Series 100 or Engineer approved equal.

2.03 PIPE ACCESSORIES

- A. Gate Valves- 3 Inches and Over:
 1. Iron body, bronze trim, resilient seat, single wedge, non-rising stem with square nut per AWWA C509, mechanical joint ends, extension box
 2. Mechanical joint ends per AWWA C111 with Cor-Blue Nuts and Bolts, or Engineer approved equal.
 3. Wrench nuts per AWWA C500.
 4. 304 stainless steel body bolts. Polyethylene wrapped according to AWWA C105.
 5. Acceptable Products:
 - a. American Flow Control
 - b. American AVK
 - c. Clow Valve Company

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- d. Mueller 2300 Series
 - e. Engineer approved equal
- B. Valve Boxes:
- 1. Cast iron, extension sleeve type 5" dia. with 3/16" casting thickness.
 - 2. Furnish with lids marked "WATER".
 - 3. Acceptable Products:
 - a. 6850 or 6860 Series by Tyler
 - b. Engineer approved equal
- C. Valve Box Centering Adaptor: Valve Box Adaptor II by Adaptor Inc. or Engineer approved equal.
- D. Fire Hydrants:
- 1. AWWA C502, UL 246, dry barrel type with 16" breakoff.
 - 2. Size: 5 1/4" main valve, two 2 1/2" hose nozzles and one 4 1/2" pumper nozzle, 6" M.J. inlet connection. Verify hose nozzles and hydrant threads with Owner.
 - 3. Bury Depth: 7'-0" minimum, provide bury depth required by pipe grades and ground surface elevations.
 - 4. Inside dimension: 7 inches minimum, with minimum 5 inches diameter valve seat opening.
 - 5. Hydrant Lead: 6 inch bell or mechanical joint inlet connection with accessories, gland bolts, and gaskets. Each fire hydrant lead shall have rodding from the tee through the valve and to the hydrant.
 - 6. Buried Body Parts: All 304 stainless steel, AWWA polyethylene wrapped.
 - 7. Bolts and Nuts: Fluorocarbon coated Cor-Ten steel equal to NSS Cor-Blue or Engineer approved equal.
 - 8. Nozzle Rotation: 360 degree rotation by loosening no more than four bolts. The nozzle section, upper and lower standpipes, and hydrant base shall be ductile iron. Nozzle shall be mechanically attached by collars. Pinned, threaded-in, screwed-in, or nozzles using set screws will not be allowed.
 - 9. Operation: Open clockwise.
 - 10. Drain System: Hydrant shall have factory installed 304 stainless steel bolting between barrel and shoe. The draining system of the hydrant shall be bronze and be positively activated by the main operating rod. Hydrant to be furnished with a sliding bronze drain valve. Sliding drain valves made of rubber, plastic, or leather will not be allowed.
 - 11. Coating: The hydrant base shall be coated with fusion-bonded epoxy on interior and exterior surfaces using materials and coating application procedures that meet or exceed the requirements of AWWA C500.
 - 12. Color: Red. Primer and two coats of enamel.
 - 13. Hydrants and Valves shall have a label or tag exhibiting a barcode.
 - 14. Acceptable Products:
 - a. Waterous Pacer WB-67-250 by American Flow Control
 - b. AVK 2700 Series
 - c. Mueller Super Centurion
 - d. Medallion by Clow Valve Co.
 - e. Engineer approved equal
- E. Hydrant Markers: Provide 5 foot long, 3/8-inch diameter, top mounted, flexible springe, reflective, fiberglass hydrant markers for each hydrant.
- 1. Acceptable Products:
 - a. Hydra-Finder by RoDon
 - b. Standard Hydrant Marker by Glasforms, Inc.
 - c. Engineer approved equal
- F. Cast Couplings:

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1. Ductile iron meeting ASTM A-536 and AWWA C219. All ductile iron components shall have fusion bonded epoxy finish.
 2. 304 stainless steel bolts.
- G. Repair Clamps:
1. All 304 stainless steel construction.
 2. Acceptable Products:
 - a. Ford FS-1 Series
 - b. Engineer approved equal
- H. Casing Pipe: Steel seamless casing pipe, conforming to AWWA C200 with ASTM grade A36 steel and minimum yield strength of 35,000 psi (242,000 kPa) with bituminous asphalt coating on exterior. Minimum wall thickness of 0.375 in.
1. PVC Casing Pipe: SDR21 Certalok Pipe or Engineer approved equal.
 2. Casing Spacers: Model SSI-8, T-304 stainless steel, with 14 gauge, T-304 stainless steel bands and risers. Manufactured by Advanced Products and Systems, Inc., or Engineer approved equal.
 3. Runners: 2 inch (50 mm) wide minimum glass reinforced plastic. Number of risers shall be as recommended by the manufacturer, but with four as the minimum.
 4. End Seals:
 - a. End seals for sealing casing pipe shall be CC1 or Engineer approved equal with stainless steel straps.
 - b. Polyethylene casing spaces by CC1 or Engineer approved equal shall be used according to the manufacturer's recommendation for around the carrier pipe inside the casing pipe.
- I. Mechanical Joint Restrainer Devices: Appropriate for the type of pipe.
1. Mechanism shall provide wedges for full circle contact of pipe wall. Restraint accomplished by series of ring or wedge segments mechanically retained inside gland housing and designed to grip pipe wall in uniform manner.
 2. All components including the gland, bolts, and restraint segments shall be high-strength ductile iron, ASTM A536.
 3. Bolts shall be fluorocarbon steel coated Cor-Ten steel T-bolts and nuts equal to NSS Cor-Blue or Engineer approved low alloy corrosion-resistant high-strength steel in accordance with ANSI/AWWA A21.11/C111.
 4. Acceptable Products:
 - a. MEGALUG by EBBA Iron
 - b. Uni-Flange by The Ford Meter Box Company
 - c. Stargrip by Star
 - d. One Lok by Sigma
 - e. Engineer approved equal

2.04 SERVICE PIPE AND FITTINGS

- A. No-Lead Brass Certification: All service fittings shall meet requirements of AWWA C800.
- B. Corporation Stops: Ford F1000-4 (1" Compression), AY McDonald 74701-22, or Engineer approved equal, with taper thread inlet (AWWA Standard) and conductive compressions connection for type "K" copper. For 2", use Ford FB 1000, AY McDonald 74701B-22, or Engineer approved equal.
- C. Curb Stops: Ford B44-444M, AY McDonald 76104-22, or Engineer approved equal for 1" Compression and Ford B41-777M, AY McDonald 76106-22, or Engineer approved equal for 2 inch.
- D. Service Pipe: Type "K" soft copper, ASTM B88, PVC Class 200, ASTM 2241 and 200 PSI IPS Poly, PE 3408 resin, PEP ASTM D2239 SIDR7 or Engineer approved equal. All compression connections with poly pipe shall be made with stainless steel insert stiffeners.

- E. Splicing Couplings for Copper Pipe: Compression type union, Ford, AY McDonald 74758-22, or Engineer approved equal.
- F. Curb Boxes: Cast iron, 1" and larger, telescope style, Minneapolis pattern base, screw type lid marked "water" with pentagon shaped brass nut, Ford EM2-70-56, AY McDonald 5614, or Engineer approved equal.
- G. Curb boxes shall be adjustable 6' to 9'± height.
- H. Service Saddles: All stainless steel Ford FS 303, AY McDonald 3825, Romac Series 306, or Engineer approved equal (ASTM 2241 and C900) for 3/4" and 1" services. For 2", use Ford 202 or Engineer approved equal.

2.05 MISCELLANEOUS ACCESSORIES

- A. Pipe Lubricant: Per pipe manufacturer's recommendations.
- B. Concrete for Thrust Blocking: Per Specification 03 3010 and 31 2322.
- C. Polyethylene Tubing for Protection of Buried Ductile Iron and Cast Iron: 8 mil polyethylene per AWWA C105.
 - 1. The polyethylene wrapping shall be extended to cover the adjacent pipe for a distance of at least 2 feet and the ends secured with circumferential turns of tape.
- D. Insulation for Pipelines:
 - 1. Pipe insulation shall be products specifically designed for direct burial application in pipe installations.
 - 2. Acceptable Products:
 - a. Styrofoam High Load 40 Extruded Polystyrene by Dow Corporation
 - b. Owens Corning Foamular 400 Extruded Polystyrene
 - c. Certifoam 40 as manufactured by Diversifoam
 - d. Engineer approved equal
- E. Tracer Wire:
 - 1. Magnetic detectable conductor, brightly colored plastic covering, imprinted with "Water" in large letters. Tracer wire must be grounded at all dead ends/stubs with drive-in magnesium ground anode rod.
 - 2. Tracer wire must be grounded at all dead ends/stubs with drive-in magnesium ground anode rod.
 - 3. Color: Blue
 - 4. Conductor: 12 AWG Insulate HDPE 30 high strength copper clad steel (CCS)
 - 5. Direct bury wire connectors: 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground tracer wire installation. Connectors shall be dielectric silicon-filled to seal out moisture and corrosion and shall be installed in a manner so as to prevent any uninsulated wire exposure. Non-locking friction fit, twist-on, or taped connectors are prohibited.
 - 6. Acceptable Products:
 - a. Copperhead Industries
 - b. Rhino Marking Systems
 - c. Coleman Cable
 - d. Kris-Tech Wire
 - e. Engineer approved equal.
- F. Pipeline/Valve Marker Posts:
 - 1. Composite or HDPE Utility Marker Post.
 - 2. 3.75" wide, 6'0" long, green color.
 - 3. Furnish with U.V. resistant vinyl decals with copy: "CAUTION WATER LINE". Blue/White.
 - 4. Acceptable Products:
 - a. Copperhead Industries
 - b. Rhino Marking Systems

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- c. Carsonite Composites
 - d. Coleman Cable
 - e. Kris-Tech Wire
 - f. Engineer approved equal.
- G. Pipeline Marker Post / Test Pedestal:
1. Rounded Composite or HDPE marker post with tracer wire access point built in. Provides high visibility to buried utilities and access to a tracer wire system. Can locate to or from the marker post with ability to connect/disconnect ground from the built-in access point.
 2. Shall be customized with utility's name and brand , 811 logo, and Call Before You Dig logo.
 3. Furnish with U.V. resistant vinyl decals with copy: "CAUTION WATER LINE". Blue/White.
 4. Minimum 4 terminals (3 tracer wire, 1 ground) .
 5. 3.75" wide, 7'0" long, green color.
 6. Acceptable Products:
 - a. Copperhead Industries
 - b. Rhino Marking Systems
 - c. Carsonite Composites
 - d. Coleman Cable
 - e. Kris-Tech Wire
 - f. Engineer approved equal.
- H. Cable Locator
1. Shall be able to locate wire at low frequency (512Hz).
 2. Have active locating frequencies (512Hz, 8.19 kHz, 83 kHz)
 3. Passive power (60Hz)
 4. Ferrous metal detection

PART 3 - EXECUTION

3.01 INSTALLING PIPE AND FITTINGS

- A. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs.
- B. Lay water pipe in accordance with the current AWWA C605 and the trench detail shown on the plans.
- C. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- D. Keep the interior of the pipe clean.
- E. At the close of the day's work or whenever the workmen are absent from the job, the end of the last laid section of pipe shall be plugged, capped or otherwise tightly closed to prevent the entry of foreign material of any kind.
- F. If the Contractor cannot place the pipe into the trench without getting foreign matter into the pipe, the Engineer may require that before lowering the pipe into the trench, a heavy, tightly woven canvas bag be placed over each end and left there until the connection is made.
- G. House Sewers: The separation requirements shall apply to building sewers and water service lines to buildings except that the separations may be reduced to State Plumbing Code when water lines are installed with continuous non-jointed material.
- H. Tape the tracer wire to the pipe every 5 feet. Install tracer wire terminals at each fire hydrant, or in lieu of, install test stations at every 500 feet. Owner to locate tracer wire using typical low frequency (512Hz) line tracing equipment before final payment. Contractor to repair the system that does not function as intended.
- I. Install pipe with a minimum of 6.5' feet of cover over the top of the pipe.

3.02 PLACING HYDRANTS AND VALVES

- A. Set valves on solid bearing.

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- B. Center and plumb valve box over valve. Set box cover flush with finished grade.
- C. Locate pumper nozzle perpendicular to and facing roadway.
- D. Hydrants and valves shall be placed in a plumb, vertical position as shown on the Plans or as directed by the Engineer.
- E. Under the location of each fire or flushing hydrant, an excavation shall be made 36 inches square and 24 inches deep which shall be filled with crushed rock ranging in size from one inch to two inches and upon which the hydrant shall rest.
- F. Encase elbow of hydrant in gravel to 6 inches above drain opening. Do not connect drain opening to sewer.
- G. A suitable concrete thrust block consisting of 1/3 cubic yard of concrete shall be poured between the back of the hydrant valve chamber and the firm undisturbed earth at the end of the trench. Cast-in-place thrust blocks may be used.
- H. When provided for in the Contract, gate valve of the size of the hydrant connection shall be placed as near the main line tee as practicable, but at least 3 feet away from fire hydrant. The valve shall be restrained by restrainer glands or tying to the valve with restraining rods. The valve box cover is to be set at the established finish grade.
- I. Set buried valves on minimum 18" x 18" x 6" thick concrete base.

3.03 BURIED PIPING ANCHORAGE

- A. Provide reaction blocking, anchors, joint harnesses or other acceptable means of preventing pipe movement caused by internal pressure for all unrestrained buried piping.
- B. Provide concrete thrust blocking on all unrestrained tees, Y-branches, bends 22 ½° or more, and plugs whether blocking is indicated on the drawings or not. Thrust blocking shall:
 - 1. Provide bearing area indicated on the standard detail_____.
 - 2. Blocking shall extend from fitting to solid undisturbed earth and shall be installed so that joints are not covered by concrete.
 - 3. If adequate support against undisturbed earth cannot be obtained, provide harness or tie bolt type anchorage.
 - 4. Minimum thickness of concrete between the fitting and the soil bearing area shall be 6".

3.04 POLYETHYLENE TUBE PROTECTION

- A. Each buried C.I. or D.I. fitting, hydrant, and coupling shall be provided with 8 mil polyethylene tube protection installed in accordance with AWWA C105. The polyethylene wrapping shall be extended to cover the adjacent pipe for a distance of at least two (2) feet and the ends secured with circumferential turns of tape.

3.05 DISINFECTION OF WATER MAIN

- A. Calcium hypochlorite shall be placed in the water pipe while they are being laid so that when water is introduced, the chlorine solution will provide water containing at least 50 ppm of available chlorine.
- B. The chlorine shall be placed in accordance with the instructions of the South Dakota Department of Environment and Natural Resources and AWWA C651, most recent version.
 - 1. By filling the water mains with at least a 50 ppm chlorine solution and allowing it to stand at least 8 hours with a minimum remaining chlorine residual of 25 ppm. All valves and hydrants should be operated during the disinfection process. If a 25 ppm residual is not present after 8 hours, the entire process should be reaccomplished.
 - 2. After the disinfection process, the line shall be flushed and two consecutive samples of water from the end of the line disinfected must be collected at least 24 hours apart and submitted to the State Health Laboratory in Pierre and shall be found free of coliform bacteria before the system is placed into service.
 - 3. The Contractor shall furnish water sample bottles, take the samples in the Engineer's or Owner's presence and submit the samples to the State Health Laboratory. The Engineer

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shall be advised of the results prior to placing the section tested into service. Two (2) copies of the tests shall be submitted to SDDENR.

4. Calcium hypochlorite may be in tablet form or Engineer approved alternate. Tablets shall be attached to the crown of the pipe with Permatex No. 1 or Engineer approved alternate. The number of tablets shall be as shown on the Table.

| | | Number of Calcium Hypochlorite Tablets of 5-G Required for a dose of 50 ppm* | | | | | | | |
|------------------------------|----------------------------------|-----------------------------------------------------------------------------------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Length of Section | Diameter of Pipe (inches) | | | | | | | | |
| | Feet | 4 | 6 | 8 | 10 | 12 | 16 | 20 | 24 |
| | 13 or less | 1 | 2 | 2 | 3 | 5 | 9 | 14 | 20 |
| | 18 | 1 | 2 | 3 | 5 | 6 | 11 | 17 | 24 |
| | 20 | 1 | 2 | 3 | 5 | 7 | 12 | 19 | 28 |
| | 30 | 2 | 3 | 5 | 7 | 10 | 18 | 28 | 40 |
| | 40 | 2 | 4 | 6 | 9 | 14 | 25 | 39 | 56 |

1) * Based on 3 3/4 g. available chlorine per tablet.

2) Calcium hypochlorite in granular form is an acceptable alternate.

5. After the retention period, chlorinated water shall be flushed from the main until the chlorine concentration is less than 1 ppm.
6. Flush new mains at full line pressure through the nearest up-hill hydrant when possible, or through a pipe or hose at least 4" diameter. Do not flush through service lines.
7. After disinfection, the water lines must be flushed and the disinfected line must be sampled. Two consecutive samples of water from the end of the disinfected line must be collected at least 24 hours apart. These samples must be submitted to the State Health Laboratory in Pierre, or other laboratory acceptable to the department. The samples must be free of coliform bacteria before the system is placed into service. During disinfection activities, chemically contaminated and/or chlorinated water shall not be discharged to a stream, river, or other waterway. Treatment or de-chlorination may be necessary prior to discharge. Contact the SDDENR's Surface Water Quality Program at 605-773-3351 for more information.
8. Disinfection of short lengths of water main:
 - a. Swabbing with hypochlorite solution: The interior of all pipe and fittings (particularly couplings and sleeves) used in making the repair shall be swabbed or sprayed with a 1% hypochlorite solution before they are installed.
 - b. Flushing: Thorough flushing is the most practical means of removing contamination introduced during repairs. If valve and hydrant locations permit, flushing toward the work location from both directions is recommended. Flushing shall be started as soon as the repairs are completed and shall be continued until discolored water is eliminated.

3.06 TESTING

- A. Every section of water main between successive valves or other closures shall be pressure tested.
- B. Each section shall be tested by applying a hydrostatic pressure of 120 pounds per square inch or 1 1/2 times the normal working pressure measured by a gauge at the lowest hydrant, whichever is greater.
- C. Lines shall be filled slowly (velocity less than 2 fps) and all air completely expelled from pipes prior to pressure testing.

- D. Leakage tests shall be for a duration of 2 hours or more. Test pressure shall not vary by more than +/- 5 psi for the duration of the test.
1. Allowable leakage for PVC plastic pipe with elastomeric joints shall be calculated using the following formula.

$$Q = L * D * \sqrt{RT(P)/148,000}$$
 - Q = quantity of makeup water, in gallons per hour
 - L = length of pipe section being tested, in feet
 - D = nominal diameter of pipe, in inches
 - P = average test pressure, in pounds per square inch (gauge)
 2. The above described tests shall be made under the supervision of the Engineer. The Contractor shall correct and/or replace any faulty material or workmanship at his expense to the satisfaction of the Engineer. Tests shall be repeated after any replacements have been made.
 3. All necessary pumps, appliances, gauges, and labor for the test shall be furnished and all connections shall be made by the Contractor at his own expense.

3.07 SEPARATION OF WATER MAINS AND SEWERS

- A. The Contractor shall install all water lines and/or sanitary sewer lines in accordance with the following. This Work will be absorbed into other bid items unless there is a specific bid item for this Work.
- B. Water Supply Interconnections: There shall be no physical connection between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any sewage or polluted water into the potable water system. Water main bleeders into sanitary sewers are prohibited. No water pipe shall pass through or come in contact with any part of a sewer manhole.
- C. Relation to Water Works Structures: While no general statement can be made to cover all conditions, sewers shall be at least 75 feet from shallow water supply wells, 50 feet from underground water reservoirs, and 30 feet from a well if the sewer is constructed with a minimum vertical separation of 18 inches.
 1. Watermains shall be laid a horizontal distance of at least 25 feet from any existing or proposed septic tank, seepage pit, absorption field, stabilization pond, or lagoon. When conditions prevent this separation, specific approval from DENR shall be obtained.
- D. Relation to Sanitary and Storm Sewer Mains: Maintain separation of water main from sanitary and storm sewer piping in accordance with SDDENR code.
 1. Horizontal Separation: Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main, measured edge to edge of piping. In cases where it is not practical to maintain a 10 foot separation, SDDENR may allow deviation on a case-by-case basis, if supported by data from the Engineer. Such deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer.
 - a. If it is impossible to obtain proper horizontal separation as described above, both the water main and sewer shall be constructed of slip-on or mechanical joint pipe complying with public water supply design standards of SDDENR and be pressure tested to 150 psi to assure water tightness before backfilling.
 2. Vertical Separation: Minimum 18 inches between water main and sewer pipe measured edge to edge of piping.
 - a. Sewers Crossing Under Water Mains: The sewer shall be laid to provide a minimum of 18 inches from the top of the sewer to the bottom of the water main. The crossing shall be arranged so the sewer joints will be equidistant and as far as possible from the water main.
 - b. Sewers Crossing Over Water Mains: Either the water main or the sewer main must be encased in a watertight carrier pipe that extends 10 feet on both sides of the

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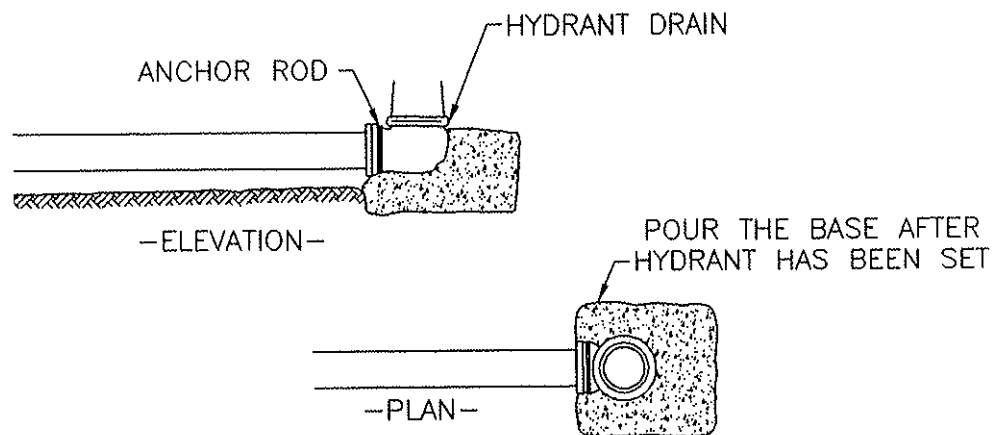
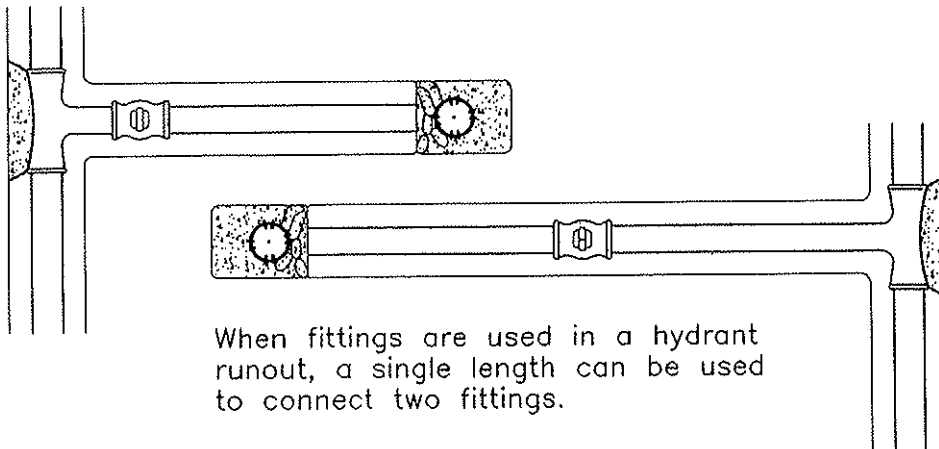
crossing, measured perpendicular to the water main. The carrier pipe shall be PVC, ABS, or HDPE and the ends sealed with a rubber gasket or boot.

3. Special Conditions: When it is impossible to obtain the proper horizontal and vertical separation as stipulated above, one of the following methods shall be specified:
 - a. Water Pipe: The sewer shall be designed and constructed equal to water pipe and shall be pressure tested at 150 psi prior to backfilling to assure water tightness; or,
 - b. Carrier Pipe: Either the water main or the sewer main may be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be PVC, ABS, or HDPE and the ends sealed with a rubber gasket or boot.
 - c. Where water mains are to be installed in parallel with a sewer or a sewer manhole that is less than 10 feet away horizontally and is not at least 18 inches below the water main, the water main shall be encased in PVC, ABS, or HDPE for the entire distance that the sewer is too close to the water main. If PVC, ABS, or HDPE is used as encasement material, the ends shall be adequately sealed with a rubber boot.
 - d. A reinforced concrete pipe (RCP) storm sewer may cross below a water main with a separation of less than 18 inches or at any height above a water main provided the joints on the RCP within 10 feet of either side of the water main are assembled with either of the following:
 - 1) Preformed butyl rubber sealant meeting federal specification #SS-S-210A and AASHTO M 198, and each of these joints are encased with a minimum 2 foot wide by 6 inch thick concrete collar centered over the joint and reinforced with the equivalent steel area as that in the RCP. Encasement of the water main will not be required when the RCP joints are collared within the 20 foot section.
 - 2) An O-Ring that conforms to ASTM C 443 specifications. O-rings are manufactured for concrete pipe with diameters up to 18 inches.

3.08 TAPPING WATER MAINS

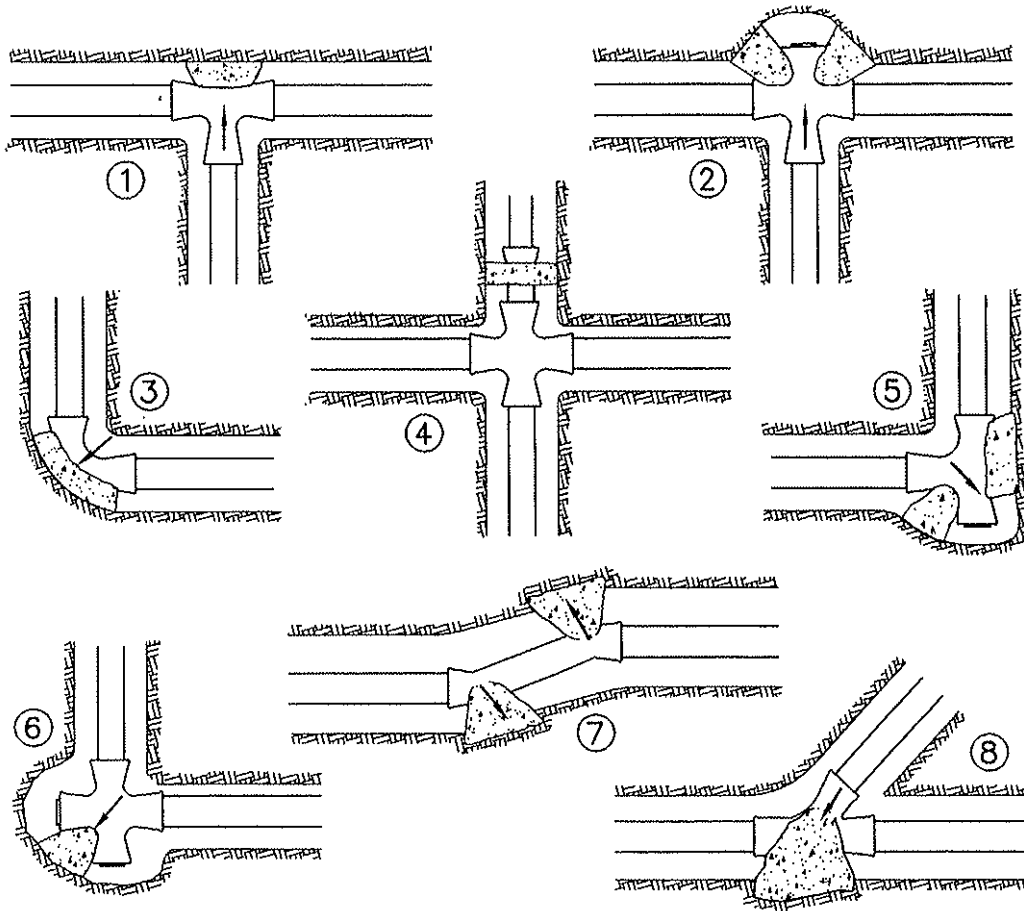
- A. Direct Tapping:
 1. Direct tapping of PVC pipe is not permitted.
 2. Tapping Saddles:
 - a. Tapping saddles are required for all distribution system taps.
 - b. Tap mains for service connections only after complete testing, disinfection and restoration of service in the new mains.
 - c. Obtain Engineer's approval of tapping equipment and procedures.
 3. Service Lines:
 - a. Comply with general pipe laying provisions of this specification for installing water service lines.
 - b. Terminate services which are not to be immediately placed in service at the curb stop with an approved brass plug or cap.
 - c. Lay copper pipe in trenches with "waving" shape to allow for settlement and movement in the trench.
 - d. Maintain at least 6 1/2 foot of cover over all portions of the service line, including gooseneck at the main.
 - e. Mark the end of each service line at the curb stop and box with a 2 x 4 post buried vertically projecting one foot (1') above grade, and painted with a fluorescent color if not reconnected to an in-place service.

END OF SECTION

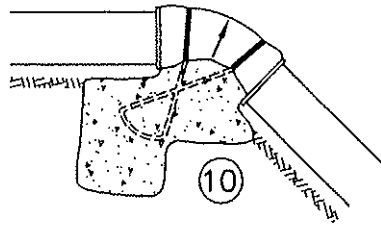
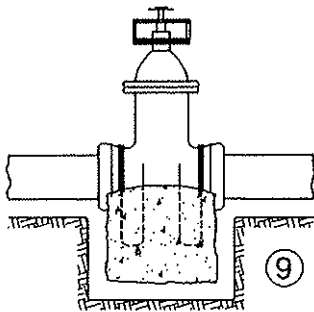


This type of hydrant foundation acts as a thrust-block, as an anchorage against frost-heave and eliminates washouts from wastewater drain.

FIRE HYDRANT FOUNDATION



If thrusts are expected due to high pressure, anchor valves and vertical bends as shown below.



- | | |
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| 1. Thru line connection, tee | 6. Direction change, cross used as elbow |
| 2. Thru line connection, cross used as tee | 7. Direction change |
| 3. Direction change elbow | 8. Thru line connection, wye |
| 4. Change line size, reducer | 9. Valve anchor |
| 5. Direction change, tee used as elbow | 10. Direction change vertical, bend anchor |

THRUST BLOCK DETAILS

**SECTION 33 3110
WASTEWATER PIPING AND APPURTENANCES**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Included in this section is all wastewater piping systems, gravity and pressure, including manholes, valves, fittings, and miscellaneous accessories.

1.02 ADDITIONAL REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01 4010 - Quality Control Services

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 2322 - Trenching, Backfilling, and Compacting: Excavating, bedding, and backfilling
- B. Section 33 3120 - Cured-in-Place Pipe

1.04 MEASUREMENT AND PAYMENT

- A. Unit Price Contract:
 - 1. Pipe (Gravity):
 - a. Pipe will be measured by the horizontal linear foot of installed pipe including measurement through valves, fittings, and manholes.
 - b. Payment will be at the contract unit price per foot of pipe actually furnished and installed.
 - c. Payment will be considered full compensation for the complete pipe installation including trenching, pipe laying, bedding, backfilling, testing, subsidiary work required by the plans and specifications, and restoring the surface if not specifically described elsewhere as a separate pay item.
 - 2. Pipe Fittings:
 - a. Pipe fittings will be measured on a per each basis. Fitting restraining devices or thrust blocking will be considered a part of the fitting for payment purposes. Fittings associated with air release manholes or lift station piping will be included as part of the respective bid item.
 - b. Payment for ductile iron fittings will be at the contract unit price.
 - 3. Manhole: By the unit. Includes excavating, concrete base pad, concrete manhole sections, cover frame and cover, to indicated depth, forming and sealing pipe inlets and outlets.
 - 4. Components: By the unit. Respective of types and sizes.
 - 5. Adjust Manhole: By the unit.
 - 6. Plug/Cap and Mark Abandon Service Lines:
 - a. Payment for plugging or capping and marking abandoned service lines will be measured and paid for by the unit each.
 - b. Payment shall include furnishing and installing plug or cap, trenching and backfilling, and furnishing and installing marker.
 - 7. Reconnect Sewer Service: By the unit. Respective of types and sizes.
 - 8. Sanitary Sewer Service Stub-In Marker and Cap: By the unit.
 - 9. Sanitary Sewer Temporary Bypass: By a lump sum. Includes furnishing, installing, operating, and maintaining of temporary bypass pumping system and all appurtenances necessary for the proper operation of bypass pumping.
 - 10. Manhole Exfiltration/Vacuum Testing: By the unit. Includes all equipment and materials necessary to perform tests.
 - 11. Pipe Testing: By the linear foot. Respective of type of test. Applies to Sewer Exfiltration Testing, Sewer Pipe Deflection Test, and Television Inspection.

1.05 SUBMITTALS

- A. Shop Drawings and Product Data:

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1. Dimensional data for all pipe and fittings.
 2. Affidavit certifying compliance with applicable standards and these specifications.
- B. Temporary Bypass Plan: Contractor shall provide a detailed written plan, including a drawing, of how the bypass operation will be performed, for approval, before or at the preconstruction meeting and at least two (2) weeks prior to the operation.
1. Bypass operations must be approved by the Owner before starting.
- C. Project Record Documents:
1. Record location of pipe runs, connections, and invert elevations.
 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.06 QUALITY ASSURANCE

- A. Source Quality Control: Pipe shall be clearly marked with pipe size, class, type, test pressure, and manufacturer's name.
- B. Reference Standards:
1. ASTM D2241: PVC Pressure Pipe
 2. ASTM D3034: PVC Gravity Sewer Pipe
 3. Uni-Bell Plastic Pipe Association "Recommended Standards for the Installation of PVC Pipe".

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Pipe and accessories shall be unloaded and stored at the job site in a manner that will not damage pipe or fittings.
- B. Contractor is responsible for safe storage of all materials until they have been incorporated into the completed project.

PART 2 - PRODUCTS

2.01 PIPE MATERIALS

- A. Gravity Sewer Pipe and Perforated Sewer Pipe:
1. PVC Sewer Pipe, ASTM D3034, SDR 35 or Sanitite by ADS, or Engineer approved equal.
 2. Integral bell joints per ASTM D3212 with rubber gaskets per ASTM F477.
 3. Laying lengths of 12 1/2 or 20 feet.
 4. Couplings:
 - a. For connection of sanitary sewer mains and services: gasketed PVC repair couplings, ASTM D-3034, SDR 35, Fernco Strongback RC series stainless-band reinforced rubber coupling or Engineer approved equal.
 - b. Connection of different diameter mains: Use gasketed PVC increaser, ASTM D-3034, SDR 35 or Engineer approved equal.
 - c. For connection of sanitary sewer services: Fernco Flexible Rubber Coupling. For differing service diameters, use Fernco Eccentric Rubber Couplings or Engineer approved equal.
 5. Service Fittings:
 - a. Use PVC service wye and fittings with gasketed connections, ASTM D-3034, SDR 35 or Engineer approved equal.
 - b. Inserta-Tee with PVC hub, ASTM D-3034, SDR 26, are approved alternative for service wyes, or Engineer approved equal.
 - c. Connecting services to existing mains: Use Inserta-Tee with PVC hub, ASTM D-3034, SDR 35, or Engineer approved equal.
- B. Ductile Iron Gravity Sewer Pipe:
1. Conform with ANSI/AWWA C151 Class 50.
 2. Mechanical joint or push on joint for buried locations.
 3. Bituminous exterior coating and cement mortar interior coating.

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- C. Fittings:
1. Fittings shall be those manufactured by the pipe manufacturer, specifically intended to be used with the pipe, and having bell and spigot joints which are an exact duplication of those on the pipe.
 2. PVC Fittings:
 - a. PVC fittings manufactured to tolerances of ASTM D2241 for IPS-PVC pipe.
 - b. Gasketed push-on type joints which are an exact duplication of the bell and spigot fittings for the pipe.
 3. Ductile Iron Fittings:
 - a. Mechanical joint short body fittings, AWWA C110 and AWWA C111.
 - b. Bituminous exterior coating, cement mortar interior coating.
 4. Joint Restrainers/Harnesses:
 - a. PVC Pipe: EBAA Series 6500, or Engineer approved equal.
 - b. Retainer Glands for PVC Pipe and M.J. Bells: EBAA Series 2000 PV or Engineer approved equal.
 - c. Retainer Glands for M.J. Ductile Iron Pipe Fittings: EBAA Series 1100 or Engineer approved equal.
 5. Cast Couplings:
 - a. Ductile iron meeting ASTM A-356 and AWWA C219. All ductile iron components shall have fusion bonded epoxy finish.
 - b. 304 stainless steel bolts.
 6. Repair Clamps:
 - a. Ford FS-1 Series or Engineer approved equal.
 - b. All 304 stainless steel construction.
 7. Bolts:
 - a. CorBlu T-bolt for buried pipe fittings and appurtenances.
 - b. Stainless steel within lift station pay limits.
 - c. Or Engineer approved equal.

2.02 PIPE APPURTENANCES

- A. Gate Valves:
1. Resilient seated gate valves per AWWA C-515, or flanged M.J. connections where applicable.
 2. American Flow Control Series 2500 Resilient Seat Valve or Engineer approved equal
 3. Provide cast iron valve boxes, extension sleeve type, 5" dia., unmarked lids, for buried valves. Operating nut or hand wheel as shown on drawings.
- B. Check Valves:
1. Check valves per AWWA C-508.
 2. Acceptable Products:
 - a. Clow Style 106LW (Weight & Lever)
 - b. Clow Style 106SL (Spring & Lever)
 - c. Engineer approved equal
- C. Service Fittings:
1. Saddle tee or 45 degree saddle wye, rubber seal to main with gasketed connection to service line .
 2. Comply with ASTM D-3034.
- D. Mechanical Joint Restrainer Devices: Appropriate for the type of pipe.
1. Mechanism shall provide wedges for full circle contact of pipe wall. Restraint accomplished by series of ring or wedge segments mechanically retained inside gland housing and designed to grip pipe wall in uniform manner.
 2. All components including the gland, bolts, and restraint segments shall be high-strength ductile iron, ASTM A536.

3. Bolts shall be fluorocarbon steel coated Cor-Ten steel T-bolts and nuts equal to NSS Cor-Blue or Engineer approved low alloy corrosion-resistant high-strength steel in accordance with ANSI/AWWA A21.11/C111.
4. Acceptable Products:
 - a. MEGALUG by EBBA Iron
 - b. Uni-Flange by The Ford Meter Box Company
 - c. Stargrip by Star
 - d. One Lok by Sigma
 - e. Engineer approved equal

2.03 PIPE LINE ACCESSORIES

- A. Insulation for Pipelines:
 1. Pipe insulation shall be products specifically designed for direct burial application in pipe installations.
 2. Acceptable Products:
 - a. Styrofoam High Load 40 Extruded Polystyrene by Dow Corporation
 - b. Owens Corning Foamular 400 Extruded Polystyrene
 - c. Certifoam 40 as manufactured by Diversifoam
 - d. Engineer approved equal
- B. Tracer Wire:
 1. Magnetic detectable conductor, brightly colored plastic covering, imprinted with "Sanitary Sewer" in large letters.
 - a. Manufactures:
 - 1) Copperhead Industries
 - 2) Rhino Marking Systems
 - 3) Coleman Cable
 - 4) Kris-Tech Wire
 2. Tracer wire must be grounded at all dead ends/stubs with drive-in magnesium ground anode rod. Wire connection will be locking and waterproof.
 3. Color: Green
 4. Conductor: 12 AWG Insulate HDPE 30 high strength copper clad steel (CCS)
 5. Direct bury wire connectors: 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground tracer wire installation. Connectors shall be dielectric silicon-filled to seal out moisture and corrosion and shall be installed in a manner so as to prevent any uninsulated wire exposure. Non-locking friction fit, twist-on, or taped connectors are prohibited.
- C. Pipeline/Valve Marker Posts:
 1. Carsonite Type CUM-375, Composite Utility Marker Post.
 2. 3.75" wide, 6'0" long, green color.
 3. Furnish with U.V. resistant vinyl decals with copy: "CAUTION SANITARY SEWER" . Green/White.
 4. Acceptable Products:
 - a. Copperhead Industries
 - b. Rhino Marking Systems
 - c. Carsonite Composite
 - d. Coleman Cable
 - e. Kris-Tech Wire
 - f. Engineer approved equal.
- D. Pipeline Marker Post / Test Pedestal:
 1. Rounded HDPE marker post with tracer wire access point built in. Provides high visibility to buried utilities and access to a tracer wire system. Can locate to or from the marker post with ability to connect/disconnect ground from the built-in access point.

2. Shall be customized with utility's name and brand , 811 logo, and Call Before You Dig logo.
 3. Furnish with U.V. resistant vinyl decals with copy: "CAUTION SANITARY SEWER" . Green/White.
 4. Minimum 3 terminals (2 tracer wire, 1 ground) .
 5. 3.75" wide, 7'0" long, green color.
 6. Acceptable Products:
 - a. Copperhead Industries
 - b. Rhino Marking Systems
 - c. Carsonite Composite
 - d. Coleman Cable
 - e. Kris-Tech Wire
 - f. Engineer approved equal.
- E. Cable Locator
1. Shall be able to locate wire at low frequency (512Hz).
 2. Have active locating frequencies (512Hz, 8.19 kHz, 83 kHz)
 3. Passive power (60Hz)
 4. Conduitive and Inductive locating.
 5. Ferrous metal detection

2.04 MANHOLES

- A. Barrel, Cone, and Box Sections:
1. Precast concrete sections per ASTM C478, 48" clear inside diameter.
 2. Tongue and groove ends.
 3. Concentric type cone sections per standard details.
 4. Design Depth: As indicated.
 5. Clear Lid Opening: 24 inch diameter.
 6. Pipe Entry: Provide openings as indicated.
- B. Steps: None. Construct without internal steps or ladders.
- C. Lid and Frame: ASTM A48, Class 35B, gray iron, heavy duty, designed for water loading, machined bearing surfaces.
1. Lid Design: Concealed pick holes and marked with "SANITARY SEWER". Supplied with self-sealing type "T" gaskets. Bolt down type installed in areas outside street right of way.
 2. Neenah R-1733 with self-sealing lid, or Engineer approved equal.
 3. Frost-Free Casting: Neenah R-1758-E Series with self-sealing lid, or Engineer approved equal.
 4. Acceptable Products:
 - a. Neenah R1733 Solid Lid.
 - b. Neenah R1916-F Bolt Down Lid.
 - c. Engineer approved equal.
- D. Base Slabs: Integrally cast bottom in lower manhole section.
- E. Bench and Inverts: Preformed polyethylene or forming system by the manufacturer.
1. Acceptable Products:
 - a. Preformed by Royal Environmental Systems.
 - b. Forming by Press Seal Corporation.
 - c. Engineerapproved equal.
- F. External Frame and Chiminey Seal: Each unit to have a 2 inch wide mastic strip on top and bottom of band, non-hardening butyl rubber sealant, minimum thickness 3/16 inch, and seal to top of manhole section and over the flange of the casting.
1. Acceptable Products:
 - a. Classic External Chiminey Seal by Cretex

- b. Inf-Shield by Sealing Systems.
 - c. Wrapid Seal by CANUSA-CPS.
 - d. Engineer approved equal.
- G. Joint Sealant: O-ring rubber gasket meeting ASTM C-443, or Waterstop RX as manufactured by American Colloid Company, or Engineer approved equal.
- H. Joints: Federal Spec SS-S-210A and AASHTO M-198, O-ring or continuous butyl rubber rope gaskets for watertight joints.
 - 1. Acceptable Products:
 - a. Tylox Super Seal by Hamilton Kent.
 - b. Engineer approved equal.
- I. Resilient Pipe Seals:
 - 1. Resilient connector cast integrally into the manhole wall.
 - 2. Compression seal type, mechanical fasteners, if used, shall be stainless steel.
 - 3. Conform with ASTM C923.
- J. Adjusting Rings: 20 inch opening, minimum 4000 psi concrete or HS-25 loading plastic only. Bricks, blocks, or shimming devices will not be allowed.
 - 1. Acceptable Products:
 - a. Plastic HDPE by Ladtech, Inc.
 - b. Engineer approved equal.
- K. Drop Pipe:
 - 1. PVC solvent weld tee conforming to Section 2.1.
 - 2. Fiberglass drop bowl by Reliner-Duran, Inc. or Engineer approved equal.
 - 3. Pressure drop pipe shall be equipped with the optional force line hood.
- L. Manhole Construction Plate Marker: As noted in the standard details.
 - 1. Acceptable Products:
 - a. Flex-guide 300 Series delineator post by Davidson Traffic Control Products.
 - b. Engineer approved equal.
- M. Lift Holes: Install manufactured lift hole plug and non-shrink grout in each hole. Minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days.
 - 1. Acceptable Products:
 - a. Lift Hole Plug by Press Seal Corporation.
 - b. Engineer approved equal.
- N. Boots: ASTM C923, watertight flexible connection, with two stainless steel clamps for attaching boot to pipe, and stainless steel power sleeve for connecting boot to manhole.
 - 1. Acceptable Products:
 - a. Type PSX by Press Seal Corporation.
 - b. Engineer approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION OF PVC PLASTIC PIPE

- A. Pipe Laying:
 - 1. Pipe shall be laid with bell end facing upstream, unless directed otherwise by the Engineer
 - 2. No deflection in the joints shall be allowed.
 - 3. When pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug.
 - 4. The cutting of pipe for inserting fittings or closure pieces shall be done in a neat and workmanlike manner without damage to the pipe and so as to leave a smooth end at right angles to the axis of the pipe.
 - 5. Bevel the end of the pipe with beveling tool after the pipe is field cut.

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6. Place a clearly visible position mark at the correct distance from the end of the field-cut-pipe.
- B. Jointing the Pipe:
1. The outside of the spigot and the inside of the bell shall be thoroughly wiped clean.
 2. Set the rubber ring in the bell with the marked edge facing toward the end of the bell.
 3. Lubricate the spigot end using a thin film of the manufacturer-supplied lubricant.
 4. Push the pipe spigot into the bell.
 5. Position the completed joint so that the mark on the pipe end is in line with the end of the bell.
- C. Connection of PVC Pipe to Concrete Manhole:
1. Resilient Connector:
 - a. Clean and lubricate pipe in the same manner as for joining pipe and insert pipe from inside or outside manhole.
 - b. Bevel and remove burrs from cut pipe.
 - c. Remove debris from pipe and connector contact by running a trowel or similar tool completely around the joint.
 - d. Do not grout the joint on the exterior, and limit grouting on the interior to one-half the pipe diameter when constructing concert inverts.
 - e. Resilient manhole connections are required for all new precast manholes constructed under this project.
 2. Grouted Connection:
 - a. When connecting sewers to existing manholes, use grouted connections in lieu of resilient connectors.
 - b. The PVC pipe shall be grouted solid at the annular space through the manhole sidewall using an expansive cement grout such as "Set Grout" or "Five Star Grout."
 - c. Aggregate may be added to the grout mixture in accordance with the manufacturer's recommendations.
 - d. The exterior circumference of PVC pipe where encased in concrete for watertightness shall be uniformly roughened by sanding with coarse sandpaper or emery cloth for a minimum of 6 inches encased length.
 - e. Additionally, one neoprene pipe gasket or O-ring shall be stretched onto the PVC pipe to form a weep ring where encased in concrete.
 - f. Grouted connections for this project are permitted only where connections are made to existing manholes or to special site constructed manholes.
- D. Service Line Construction:
1. Tapping Sewer Pipe:
 - a. Core neat hole of proper diameter perpendicular to the axis of the pipe.
 - b. Clamp to pipe with all stainless steel clamping devices specifically designed for use with the service fittings employed.
 - c. Do not tap sewers until mains have been tested and approved by the Engineer.
 2. Service Lines:
 - a. Construct service lines generally using the same procedures as for mains.
 - b. Cap service lines which are not to be placed in service immediately with a standard fitting cap.
 - c. Bury an 8 foot long 2 x 4 post vertically, projecting 1 foot above grade, at the end of each service line. Paint the top of the 2 x 4 post a fluorescent color.
 - d. Service line grades and depths for services intended for a future sewer connection will be established in the field by the Engineer at the time of construction.
 3. Abandon Service Lines:
 - a. Plug or cap existing abandoned service lines at the property line at locations shown on plans and according to the plan details.
 - b. Mark abandoned line according to plan details.

- E. Connection of PVC Pipe to Existing Mains and Service Pipe:
 - 1. Service Lines:
 - a. Sanitary sewer service connections may vary in size 4" or 6". The service connection will be made with resilient eccentric flexible couplings as necessary to provide a smooth transition through the invert of different pipe sizes.
 - b. Fittings are required for all connections, cleanout access, and change in line direction not occurring in manholes.
 - c. Bends (90°, 45°, and 22½°) are required in changes in line direction, particularly at service connections into the sewer main lines.
 - d. PVC reducers are required at changes in line size when flexible couplings will not accommodate the size difference.

3.02 INSTALLATION OF MANHOLES

- A. General:
 - 1. Manholes shall be constructed to conform with the detail shown on the drawings at the end of this specification and in compliance with the requirements set forth herein.
- B. Excavation:
 - 1. The bottom of the excavation upon which the manhole base is to be placed or cast shall be in a stable and unyielding condition with gravel bedding material leveled to 4" thickness to provide uniform support.
 - 2. If an unstable condition exists at the manhole excavation, the unstable material shall be over-excavated and 1 1/2" uniformly graded coarse aggregate shall be placed in the over-excavated area and brought to grade.
- C. Foundation:
 - 1. The concrete foundation, whether precast or cast-in-place shall be constructed over the prepared bedding. Precast concrete shall be not less than 6" thickness and cast-in-place concrete not less than 8" thickness.
- D. Invert Construction:
 - 1. Factory constructed flow channels formed integrally with manhole bases may be utilized for this project.
 - 2. Where site constructed flow channels are used, the following procedures shall be used.
 - a. Where possible, the sewer shall be laid continuously through manhole locations and the manhole built later. After the manholes are built, the upper half of the pipe shall be cut out and the bottom finished to the dimensions shown on the drawings.
 - b. Care shall be taken to properly prepare the pipe and to provide the water seal required at the pipe entrance.
 - c. When precast manhole bases are utilized, the floor and invert channel shall be formed and placed in one operation directly on the precast base, but after properly sealed and pipe to manhole sidewall connections are made.
 - d. Flow channels shall be U-shaped with a semi-circular bottom and with the height of the top of the channel equal to the pipe diameter.
 - e. The floor or bench area of the manhole out-side of the channel shall be smooth and shall slope to the channel at 2 inches per foot.
 - f. Where it is not practical from the grade or alignment of incoming sewers to use split pipe through manholes, the sewer invert shall be made of concrete deposited between forms and shaped to conform exactly to the lower half of the pipe it connects.
 - g. Side branches shall be connected with as full a curve as possible, but in no case with a radius of less than 1.5 pipe diameters.
 - h. Inverts shall be plastered with epoxy mortar and left smooth and clean.
 - 1) Ceilcote "HT 648"
 - 2) Sike "Sikedur Hi-Mod"
 - 3) Engineer approved equal

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i. Changes in size and grade of channels shall be made gradually and evenly.

E. Covers:

1. The manhole covers shall be set with their tops at the grade shown on the plans or established by the Engineer and will be set to match the slope of the road or driving surface.
2. Adjustments shall be made using concrete adjusting rings set in full bed mortar joints.
3. Mortar joints may be varied in thickness up to 3/4 inch for minor adjustments.
4. Manhole cover frames shall be set in full bed mortar joints and centered accurately over the manhole opening.
5. When a manhole top is above the elevation of the surrounding ground, compacted backfill shall be placed around the exposed section unless special grading is required by the plans.
6. Finish grading shall provide positive drainage away from the cover at a maximum slope of 5:1 unless a steeper slope is necessary to match existing ground contours.
7. When HDPE adjusting rings are required, the Contractor will apply specified sealant to all mating surfaces. The sealant will be according to the manufacturer's recommendations or pre-approved by the Engineer.

3.03 TRACER WIRE INSTALLATION

A. General

1. Tracer wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512 Hz) signal, and without distortion of signal caused by more than one wire being installed in close proximity to one another.
2. Tracer wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
3. Any damage occurring during installation of the tracer wire must be immediately repaired by removing the damaged wire and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.
4. Tracer wire shall be installed at the bottom half of the pipe and secured (taped/tied) at 10-foot intervals. During HDD operation wire shall fastened by 2 full wraps of tape every 5'.
5. Mainline tracer wire shall not be connected to existing conductive pipes. Treat as a mainline dead- end ground using an approved waterproof connector to a Ground Rod driven into virgin soil beneath and in line with the utility.
6. All service lateral tracer wire shall be a single wire, connected to the mainline tracer wire using a three-way mainline-to-service connector, installed without cutting/splicing the mainline tracer wire.
7. In occurrences where an existing tracer wire is encountered on an existing utility that is being extended or tied into, the new tracer wire and existing tracer wire shall be connected using approved connectors.
8. Tracer wire on all service laterals/stubs must terminate at an approved tracer wire access point located directly above the utility, at the edge of the road right-of-way, but out of the roadway.
9. One foot of excess/slack wire is required in all tracer wire access points after meeting final elevation.
10. Tracer wire must be properly grounded as specified.
11. At all mainline dead-ends, tracer wire shall go to ground using an approved connection to a 1.5-lb., drive-in, magnesium ground rod.
12. When grounding the tracer wire at dead-ends/stubs, the Ground Rod shall be driven into virgin soil directly beneath and in line with the utility.
13. Ground rod wire shall be connected at two-terminal to the ground rod terminal
14. Where the Ground Rod wire will be connected to a tracer wire access point, one foot of excess/slack wire is required after meeting final elevation.

15. The system will be tested for continuity and connectivity along all segments of installation before payment will be made. The contractor will be responsible for testing.
 16. The contractor will provide the owner a report with results of system testing.
 17. The contractor will schedule with the owner and engineer when he intends to complete system testing.
 18. The contractor will correct any defects in the system before payment will be made.
- B. Sanitary Sewer System
1. A mainline tracer wire must be installed, with all service lateral tracer wires properly connected to the mainline tracer wire, to promote tracing/locating capabilities from a single connection point.
 2. Lay mainline tracer wire continuously, by-passing around the outside of manholes/structures on the north or east side.
 3. Tracer wire on all sanitary service laterals must terminate at an approved tracer wire access point color coded green and located directly above the service lateral at the edge of road right-of-way.

3.04 SEPARATION OF WATER MAINS AND SEWERS

- A. Contractor shall install all water lines and/or sanitary sewer lines in accordance with the following. This Work will be absorbed into other bid items unless there is a specific bid item for this Work.
- B. Water Supply Interconnections: There shall be no physical connection between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any sewage or polluted water into the potable water system. Water main bleeders into sanitary sewers are prohibited. No water pipe shall pass through or come in contact with any part of a sewer manhole.
- C. Relation to Water Works Structures: While no general statement can be made to cover all conditions, sewers shall be at least 75 feet from shallow water supply wells, 50 feet from underground water reservoirs, and 30 feet from a well if the sewer is constructed as mentioned in paragraph 3.4D.3.
- D. Relation to Sanitary and Storm Sewer Mains: Maintain separation of water main from sewer piping in accordance with SDDENR code.
1. Horizontal Separation: Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main, measured edge to edge of piping. In cases where it is not practical to maintain a 10 foot separation, SDDENR may allow deviation on a case-by-case basis, if supported by data from the Engineer. Such deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer.
 - a. If it is impossible to obtain proper horizontal separation as described above, both the water main and sewer shall be constructed of slip-on or mechanical joint pipe complying with public water supply design standards of SDDENR and be pressure tested to 150 psi to assure water tightness before backfilling.
 2. Vertical Separation: Minimum 18 inches between water main and sewer pipe measured edge to edge of piping.
 - a. Sewers Crossing Under Water Mains: The sewer shall be laid to provide a minimum of 18 inches from the top of the sewer to the bottom of the water main. The crossing shall be arranged so the sewer joints will be equidistant and as far as possible from the water main.
 - b. Sewers Crossing Over Water Mains: Either the water main or the sewer main must be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be PVC, ABS, or HDPE and the ends sealed with a rubber gasket or boot.

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3. Special Conditions: When it is impossible to obtain the proper horizontal and vertical separation as stipulated above, one of the following methods shall be specified:
 - a. Water Pipe: The sewer shall be designed and constructed equal to water pipe and shall be pressure tested at 150 psi prior to backfilling to assure water tightness; or,
 - b. Carrier Pipe: Either the water main or the sewer main may be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be PVC, ABS, or HDPE and the ends sealed with a rubber gasket or boot.
 - c. Where water mains are to be installed in parallel with a sewer or a sewer manhole that is less than 10 feet away horizontally and is not at least 18 inches below the water main, the water main shall be encased in PVC, ABS, or HDPE for the entire distance that the sewer is too close to the water main. If PVC, ABS, or HDPE is used as encasement material, the ends shall be adequately sealed with a rubber boot.
 - d. A reinforced concrete pipe (RCP) storm sewer may cross below a water main with a separation of less than 18 inches or at any height above a water main provided the joints on the RCP within 10 feet of either side of the water main are assembled with either of the following:
 - 1) Preformed butyl rubber sealant meeting federal specification #SS-S-210A and AASHTO M 198, and each of these joints are encased with a minimum 2 foot wide by 6 inch thick concrete collar centered over the joint and reinforced with the equivalent steel area as that in the RCP. Encasement of the water main will not be required when the RCP joints are collared within the 20 foot section.
 - 2) An O-Ring that conforms to ASTM C 443 specifications. O-rings are manufactured for concrete pipe with diameters up to 18 inches.

3.05 WASTEWATER FLOW MODIFICATIONS

- A. General:
 1. Contractor will be responsible for making wastewater flow diversions as may be necessary to complete the work.
 2. Contractor's responsibility will include stoppages, temporary plugs, dewatering, by-pass pumping, and similar work effort whether or not such work is specifically described on the drawings and plan notes.
 3. Contractor shall furnish all labor and equipment for diversion work.
- B. Work Plan:
 1. Contractor shall submit a work plan for any work requiring a flow stoppage, diversion, or by-pass pumping.
 2. No work may commence without the Engineer's prior approval.
 3. The work plan shall include provisions for notifications to any affected property owners, and shall include any mitigation measures which may be needed to avoid unnecessary inconvenience to system users.
- C. Procedures:
 1. All wastewater diversions, stoppages, and pumping shall be performed in a sanitary manner.
 2. Wastewater will not be allowed on ground surfaces, streets, gutters, storm sewers, or other similar areas.
 3. Contractor shall provide for continuous use of all sanitary sewer lines and services draining to the work area.
 4. Surcharging, backups, overflows, or other damages resulting from the Contractor's operations shall be corrected immediately at the Contractor's expense.

3.06 FLUSHING AND TESTING SEWER PIPELINES

- A. Visual Inspection:
 1. As work progresses, each section of pipe shall be examined for interior damage to the pipe or the lining and all joints shall be checked for smoothness and continuity.

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2. Any chips, cracks, pinholes, faulty joints, or other defects shall be corrected by the Contractor at his expense.
- B. Pipeline Flushing: The Contractor shall flush the pipelines before placing in service by means that are in accordance with good practice to remove earth, sand, rocks, or other foreign materials from the interior of the pipeline.
1. Flushing will be conducted by means of high pressure water jets and vacuum equipment capable of cleaning and removing foreign debris so as not to be flushed to existing pipelines. Any foreign materials and debris that have been flushed to existing lines will also be removed and cleaned from existing lines as necessary.
- C. Alignment and Deflection (Gravity Sewer):
1. Sewer pipelines will be checked by the Engineer to determine whether any displacement of the pipe has occurred after backfilling.
 2. Deflection tests shall be performed by the Contractor on all PVC sewers. Deflection tests shall be conducted after the final backfill has been in place at least 30 days, but not more than 45 days after the final backfill has been in place.
 - a. Deflection tests shall be made using a deflection gauge (mandrel) device or other rigid go-no-go approved device. The diameter of the deflection gauge device shall be 95 percent of the undeflected inside diameter of the flexible pipe. The Contractor shall be required to install the pipe in such a manner so that the diametric deflection of the pipe shall not exceed 5 percent. All pipes exceeding the 5 percent deflection shall be relaid or replaced by the Contractor at no additional cost to the Owner.
 3. The Owner may hire and pay for one video inspection of newly installed pipelines. If through any testing or observation a defect is identified, subsequent video inspection will be required at no expense to the Owner.
- D. Leakage (Gravity Sewer):
1. Tests for watertightness shall be made by the Contractor in the presence of the Engineer . Testing shall be as specified below:
 - a. Infiltration Testing:
 - 1) Infiltration tests will be used if the groundwater table is one foot or more above top of the finished sewer at all points. Otherwise, low pressure air testing for PVC pipe will be used.
 - 2) When groundwater conditions, as verified by construction records and test borings, are at an elevation that permits infiltration testing, the following maximum allowable leakage rates shall apply:

| <u>Pipe Size (in)</u> | <u>Allowable Leakage in gal/ft of sewer per 24 hours Infiltration</u> |
|------------------------------|------------------------------------------------------------------------------|
| 36 | 1.364 |
| 33 | 1.250 |
| 30 | 1.136 |
| 27 | 1.023 |
| 24 | 0.909 |
| 21 | 0.795 |
| 18 | 0.682 |
| 15 | 0.568 |
| 12 | 0.455 |
| 10 | 0.379 |
| 8 | 0.303 |
| 6 | 0.227 |

- (a) At the discretion of the Engineer, the time for the leakage rate test may be shortened to four hours, with the proper adjustment in the leakage rate shown above.
 - (b) The tests and measurement of the infiltration shall be conducted by the Contractor in a manner as approved by the Engineer. Approved methods:
 - (1) Pumped and measured volumes
 - (2) Calibrated V-notch wier
 - (c) The Contractor shall repair the sewer and retest until satisfactory tightness is obtained.
- b. Low Pressure Air Testing:
- 1) Low pressure air testing will be utilized for PVC sewers only if the groundwater elevation is below or less than one foot above the top of the sewer pipeline.
 - 2) The low pressure air test procedure shall generally be conducted in the manner set forth by the Uni-Bell Plastic Pipe Association publication, "Recommended Practice for Low Pressure Air Testing of Installed Sewer Pipe", UNI-B-6-98.
 - 3) The Contractor shall furnish all necessary equipment and be responsible for conducting low pressure air tests in the presence of the Engineer.
 - 4) The Contractor's pressurizing equipment shall include a regulator or relief valve set no higher than 9 psig to avoid over-pressurization.
 - 5) Pipeline segments between manholes shall be tested separately.
 - 6) Mechanical or pneumatic plugs shall be placed in the line at opposing manholes and each plug braced as a safety precaution.
 - 7) An above-ground air pressurizing device including shut-off valve, pressure regulating valve, pressure relief valve, input pressure gauge and a continuous monitoring pressure gauge shall be provided and connected to the test plug at one end.
 - 8) Separate hoses for introducing air and for monitoring air pressure shall be provided.
 - 9) The monitoring gauge shall read in divisions of 0.1 psi with an accuracy of +/- 0.04 psi.
 - 10) Low pressure air shall be introduced into the line until the internal pressure reaches 4 psig and the supply throttled to maintain 4 psig for at least two minutes.
 - 11) The supply shall then be shut off or disconnected.
 - 12) The pressure shall be allowed to drop to about 3.5 psig at which time the timing shall commence and the time accurately measured for a 1.0 psig pressure drop.
 - 13) The minimum allowable time interval for a 1.0 psig pressure drop is $T = .085 DK/Q$ where T is the shortest time (seconds) allowed for the pressure to drop 1.0 psig; D is pipe diameter in inches; K = .000419 DL, but not less than 1.0; Q = .0015 cubic feet per minute/s.f.; L = length of pipe being tested in feet.
 - (a) Testing of a 0.5 psig drop may be utilized if approved by the Engineer, with an allowable shortest time T, equal to 1/2 of the value obtained from the above formula.
 - 14) If the section fails to meet these requirements, the Contractor shall determine the source of leakage, repair or replace all deficiencies and retest the installation until passing, all in a manner approved by the Engineer.
- c. Exfiltration Testing:
- 1) Exfiltration testing of PVC sewer pipe above groundwater is permitted in lieu of low pressure air testing described above.
 - 2) Exfiltration tests will be conducted in a manner approved by the Engineer which will provide a minimum head of two feet above the top of the pipe at its highest point in the test section.

- 3) The Contractor shall furnish all necessary equipment, including water, for the testing and shall be responsible for conducting the tests in the presence of the Engineer.
- 4) The allowable leakage from exfiltration shall not exceed those values set forth in the above table for infiltration.
- 5) If leakage is found to exceed the allowable limit, the Contractor shall locate the source of leakage, make necessary repairs and retest the line until satisfactory, all in a manner approved by the Engineer.

E. Leakage (Pressure Sewer):

1. Leakage tests for water tightness shall be made by the Contractor in the presence of the Engineer. The Contractor shall correct and/or replace any faulty material or workmanship to the satisfaction of the Engineer or Owner. Tests shall be repeated after any corrective work has been completed.
2. Every section of pressure sewer pipeline between successive valves or other closures shall be tested.
3. Lines shall be filled slowly (velocity less than 2 ft/sec.) and all air completely expelled from the pipeline prior to pressure testing.
4. Each section shall be tested by applying a minimum pressure of 100 p.s.i. or 1½ times the normal working pressure, whichever is greater, measured by a gauge at the lowest point on the line.
5. The maximum allowable leakage will be determined from the following formula:
 - a. $Q = L * D * \sqrt{RT(P)} / 148000$
 - 1) Q = allowable leakage, in gallons per hour
 - 2) L = length of the pipeline segment being tested
 - 3) D = nominal diameter of the pipe, in inches
 - 4) P = test pressure, in psi.
6. The leakage test shall be for a duration of one hour.

F. Testing Manholes:

1. During the construction of manholes, the Contractor shall, in accordance with good practice, remove earth, sand, rocks, or other foreign material on the joint surfaces during assembly of the sections.
2. Visual Examination:
 - a. Before installation, the Contractor shall visually check each manhole, both exterior and interior, for flaws, cracks, holes, or other inadequacies which might affect the operation or watertight integrity of the manhole.
 - b. Should any inadequacies be found, the Contractor, at his own expense, shall make any repairs deemed necessary by the Engineer.
3. Manhole Leakage Testing:
 - a. All newly installed manholes, and/or existing manholes into which new sewer mains were connected shall be tested for leakage in the presence of the Engineer. This leakage testing shall include vacuum testing or exfiltration testing (if Engineer permits) as defined below:
 - 1) In the event that manhole leakage testing of an existing manhole reveals leaks which were not caused by a new connection, the existing manhole shall be repaired. In this case, the cost of the repair will be negotiated with the Contractor or the manhole will be replaced at the contract unit price at the Engineer's discretion.
 - 2) Separate manhole testing may be waived if an exfiltration test was performed on manholes and piping.
 - b. Manhole Vacuum Test:
 - 1) The manhole vacuum test shall be performed in accordance with ASTM C1244. The following procedure is summarized from ASTM C1244 and shall be followed in conjunction with ASTM C1244 unless modified by the Engineer. The vacuum

test shall include testing the top of the manhole, excluding the adjusting rings and manhole frame and cover. Testing will be allowed after backfilling has occurred or as specified in the Special Provisions. Manhole vacuum tester assembly and vacuum pumps shall be as manufactured by Cherne Industries, Inc. or Engineer approved equal. Repair of leaks may require the removal and replacement of manhole sections. The use of grout to repair leaks will not be allowed.

- 2) Procedure:
- (a) All lift holes shall be plugged.
 - (b) All pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
 - (c) The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
 - (d) A vacuum of 10 in. of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.
 - (e) The manhole shall pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated in the table below.
 - (f) If the manhole fails the initial test, necessary repairs shall be made by an approved method. The method shall then be retested until a satisfactory test is obtained.

| Minimum Test Times for Various Manhole Diameters, in seconds | | | |
|-------------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <u>Depth (ft)</u> | <u>48" Diameter</u> | <u>60" Diameter</u> | <u>72" Diameter</u> |
| 8 | 20 | 26 | 33 |
| 10 | 25 | 33 | 41 |
| 12 | 30 | 39 | 49 |
| 14 | 35 | 46 | 57 |
| 16 | 40 | 52 | 67 |
| 18 | 45 | 59 | 73 |
| 20 | 50 | 65 | 81 |
| 22 | 55 | 72 | 89 |
| 24 | 59 | 78 | 97 |
| 26 | 64 | 85 | 105 |
| 28 | 69 | 91 | 113 |
| 30 | 74 | 98 | 121 |

- c. Manhole Exfiltration Test:
- 1) All lines leading into or out of the manhole shall be tightly plugged.
 - 2) The manhole shall be filled with water to its maximum level. The water shall stand for two hours to allow for normal water absorption into the manhole material. At the end of the two hour stabilization period, if the water level in the manhole has dropped below the top ring joint, additional water will be added to bring the level above the joint as before. Any drop in water level greater than 1/4" noted with one hour test period shall constitute failure and the Contractor, at

his own expense, shall repair the manhole and retest until satisfactory tightness is obtained.

END OF SECTION

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**SECTION 33 4110
STORM SEWERS**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes storm sewers as specified and shown on the plans.

1.02 OTHER REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 01 3240 - Shop drawings, Product Data, and Samples

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 2322 - Trenching, Backfilling, and Compacting
- B. Section 33 1120 - Water Mains and Appurtenances
- C. Section 33 3110 - Wastewater Piping and Appurtenances: Precast Manholes

1.04 MEASUREMENT AND PAYMENT

- A. Storm Sewers
 - 1. The length of pipe installed will be measured along the centerline of the pipe from end to end of pipe with deductions for diameter of manholes. Pipe will be paid for at the contract unit price for the number of linear feet of storm sewer placed in the accepted work.
- B. Butyl Rope (Furnish and Install): By the linear feet (LF). Measured of perimeter of each section of storm sewer.
- C. Manholes and Inlets
 - 1. The quantity of manholes, elbows, tees, and inlets for the lengths specified will be measured as the total number of manholes and inlets of the various types of construction, complete with frames and gratings or covers.
- D. Flared End Sections
 - 1. Flared end sections will be measured by the unit. Flared end sections will be paid for at the contract unit price for the various sizes in the accepted work.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage
 - 1. Materials delivered to the site shall be inspected for damage, unloaded, and stored with a minimum of handling. Materials shall not be stored directly on the ground. The inside of pipes and fittings shall be kept free of dirt and debris. Gasket materials and plastic materials shall be protected from exposure to the direct sunlight over extended periods.
- B. Handling
 - 1. Materials shall be handled in such a manner as to insure delivery to the trench in sound, undamaged condition. Pipe shall be carried to the trench, not dragged.

PART 2 - PRODUCTS

2.01 STORM DRAINS

- A. Reinforced Concrete Pipe
 - 1. Conform with ASTM C76, AASHTO M170, M206, and M207 Type II, or Engineer approved equal.
 - 2. Reinforced concrete pipe used for storm sewer drain on the project shall not be required to have waterproof joints. The joints shall be wrapped with 12" wide geotextile fabric. The fabric shall be AMOCO 2002 or Engineer approved equal.
- B. Corrugated Polyethylene Drainage Tubing
 - 1. Conform to SDDOT Section 680, or Engineer approved equal.
- C. Corrugated Polyethylene Pipe
 - 1. N12 by ADS Inc. - Standard H20 Load, or conform to SDDOT Section 990

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- 2. Engineer approved equal
- D. Corrugated Polypropylene Pipe
 - 1. HP Storm by ADS Inc. - Standard H20 Load, or conform to SDDOT Section 990.
 - 2. Engineer approved equal
- E. Fittings
 - 1. Fittings shall be those manufactured by the pipe manufacturer, specifically intended to be used with the pipe, and having bell and spigot joints which are an exact duplication of those on the pipe.

2.02 DRAINAGE STRUCTURES

- A. Manholes and Inlets
 - 1. Construction shall be of reinforced concrete manufactured according to ASTM C478, latest edition.
 - 2. Frames and grates for drop inlets shall be supplied as per Neenah R-1878-A8, R-1878-B7G, R3065 or R3067, or Engineer approved equal as indicated on the plans.
 - 3. Frames and lids for manholes shall be Neenah R1733, or Engineer approved equal as indicated on the plans.
- B. Flared End Sections
 - 1. Sections shall be of a standard design fabricated from the type of storm sewer selected.

2.03 MATERIALS FOR CAST-IN-PLACE DRAINAGE STRUCTURES

- A. Concrete
 - 1. Unless otherwise specified, concrete and reinforced concrete shall conform to the requirements for 4,000 psi. concrete under Section 03 3010-Cast In Place Concrete. The concrete mixture shall have air content by volume of concrete, based on measurements made immediately after discharge from the mixer, of 5 to 7 percent when maximum size of coarse aggregate exceeds 12 inches. Air content shall be determined in accordance with ASTM C231. The concrete covering over steel reinforcing shall not be less than 1 inch thick for covers and not less than 12 inches thick for walls and flooring. Concrete covering deposited directly against the ground shall have a thickness of at least 3 inches between steel and ground. Expansion joint filler material shall conform to ASTM D1751, ASTM D1752, or AASHTO M 33, or shall be resin-impregnated fiberboard conforming to the physical requirements of ASTM D 1752.

PART 3 - EXECUTION

3.01 EXCAVATION FOR STORM SEWERS

- A. Excavation of trenches and for appurtenances and backfilling for culverts and storm sewers shall be in accordance with the applicable portions of Section 31 2322 - Trenching, Backfilling, and Compacting and the following requirements:
 - 1. Trenching
 - a. The width of trenches at any point below the top of the pipe shall not be greater than the outside diameter of the pipe plus sufficient width to permit satisfactory jointing and thorough tamping of the bedding material under and around the pipe. Sheeting and bracing where required shall be placed within the trench width as specified. Care shall be taken not to over excavate. Where trench widths are exceeded, redesign with a resultant increase in cost of stronger pipe or special installation procedures shall be necessary. Cost of this redesign and increased cost of pipe or installation shall be borne by the Contractor without additional cost to the Owner.
 - 2. Removal of Rock
 - a. Rock in either ledge or boulder formation shall be replaced with suitable materials to provide a compacted earth cushion having a thickness between unremoved rock and the pipe of at least 8 inches or 1/2 inch for each foot of fill over the top of the pipe, whichever is greater, but not more than three-fourths the nominal diameter of the pipe.

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3. Removal of Unstable Material

- a. Where wet or otherwise unstable soil incapable of properly supporting the pipe, as determined by the Engineer, is unexpectedly encountered in the bottom of a trench, such material shall be removed to the depth required and replaced to the proper grade with select granular material, and compacted as directed by the Engineer. When removal of unstable material is due to the fault or neglect of the Contractor in his performance of shoring and sheeting, water removal, or other specified requirements, resulting material shall be excavated and replaced at the Contractor's expense.

3.02 BEDDING

- A. The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe or pipe arch. When necessary, the bedding shall be tamped.

3.03 PLACING PIPE

- A. Each pipe shall be carefully examined before being laid, and defective or damaged pipe shall not be used. Pipelines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering sections of pipe into trenches. Lifting lugs in vertically elongated metal pipe shall be placed in the same vertical plane as the major axis of the pipe. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when trench conditions or weather are unsuitable for such work. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary. All pipe in place shall be inspected before backfilling, and those pipes damaged during placement shall be removed and replaced.
- B. Prior to placement of backfill on or around the storm sewer pipe, the joints shall be wrapped with a minimum 12" width of geotextile fabric covering 85% of the circumference of the pipe joint.

3.04 BACKFILLING

- A. Backfilling Pipe in Trenches
 - 1. After the pipe has been properly bedded, selected material from excavation or borrow, at a moisture content that will facilitate compaction, shall be placed along both sides of pipe in layers not exceeding 8 inches in compacted depth. The backfill shall be brought up evenly on both sides of the pipe for the full length of pipe. Care shall be taken to insure thorough compaction of the fill under the haunches of the pipe. Each layer shall be thoroughly compacted with mechanical tampers or rammers. This method of filling and compacting shall continue until the fill has reached an elevation of at least 12 inches above the top of the pipe. The remainder of the trench shall be backfilled and compacted by spreading and rolling or compacted by mechanical rammers or tampers in layers not exceeding the equipment used. Tests for density will be made as necessary to ensure conformance to the compaction requirements specified elsewhere in this paragraph.
- B. Compaction
 - 1. General
 - a. Cohesionless materials include gravels, gravel-sand mixtures, sands, and gravelly sands. Cohesive materials include clayey and silty gravels, gravel-silt mixtures, clayey and silty sands, sand-clay mixtures, clays, silts, and very fine sands. When results of compaction tests for moisture-density relations are recorded on graphs, cohesionless soils will show straight lines or reverse-shaped moisture-density curves, and cohesive soils will show normal moisture-density curves.
 - 2. Minimum Density
 - a. Backfill over and around the pipe and backfill around and adjacent to drainage structures shall be compacted at the approved moisture content to the following applicable minimum density (densities) which will be determined as specified in Section 31 2322 - Trenching, Backfilling, and Compacting.
 - 3. Determination of Density

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- a. Testing shall be performed by an approved commercial testing laboratory or by the Owner at no cost to the Contractor. Tests shall be performed in sufficient number to insure that specified density is being obtained. Laboratory tests for moisture-density relations shall be made in accordance with ASTM D 698 Standard Proctor.

3.05 SEPARATION OF WATER MAINS AND SEWERS

- A. The Contractor shall install all water lines and/or sanitary sewer lines in accordance with the following. This Work will be absorbed into other bid items unless there is a specific bid item for this Work.
- B. Water Supply Interconnections: There shall be no physical connection between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any sewage or polluted water into the potable water system. Water main bleeders into sanitary sewers are prohibited. No water pipe shall pass through or come in contact with any part of a sewer manhole.
- C. Relation to Sanitary and Storm Sewer Mains: Maintain separation of water main from sewer piping in accordance with SDDENR code.
 - 1. Horizontal Separation: Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main, measured edge to edge of piping. In cases where it is not practical to maintain a 10 foot separation, SDDENR may allow deviation on a case-by-case basis, if supported by data from the Engineer. Such deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer.
 - a. If it is impossible to obtain proper horizontal separation as described above, both the water main and sewer shall be constructed of slip-on or mechanical joint pipe complying with public water supply design standards of SDDENR and be pressure tested to 150 psi to assure water tightness before backfilling.
 - 2. Vertical Separation: Minimum 18 inches between water main and sewer pipe measured edge to edge of piping.
 - a. Sewers Crossing Under Water Mains: The sewer shall be laid to provide a minimum of 18 inches from the top of the sewer to the bottom of the water main. The crossing shall be arranged so the sewer joints will be equidistant and as far as possible from the water main.
 - b. Sewers Crossing Over Water Mains: Either the water main or the sewer main must be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be PVC, ABS, or HDPE and the ends sealed with a rubber gasket or boot.
 - 3. Special Conditions: When it is impossible to obtain the proper horizontal and vertical separation as stipulated above, one of the following methods shall be specified:
 - a. Water Pipe: The sewer shall be designed and constructed equal to water pipe and shall be pressure tested at 150 psi prior to backfilling to assure water tightness; or,
 - b. Carrier Pipe: Either the water main or the sewer main may be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be PVC, ABS, or HDPE and the ends sealed with a rubber gasket or boot.
 - c. Where water mains are to be installed in parallel with a sewer or a sewer manhole that is less than 10 feet away horizontally and is not at least 18 inches below the water main, the water main shall be encased in PVC or cast iron for the entire distance that the sewer is too close to the water main. If PVC, ABS, or HDPE is used as encasement material, the ends shall be adequately sealed with a rubber boot.
 - d. A reinforced concrete pipe (RCP) storm sewer may cross below a water main with a separation of less than 18 inches or at any height above a water main provided the joints on the RCP within 10 feet of either side of the water main are assembled with either of the following:

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- 1) Preformed butyl rubber sealant meeting federal specification #SS-S-210A and AASHTO M 198, and each of these joints are encased with a minimum 2 foot wide by 6 inch thick concrete collar centered over the joint and reinforced with the equivalent steel area as that in the RCP. Encasement of the water main will not be required when the RCP joints are collared within the 20 foot section.
- 2) An O-Ring that conforms to ASTM C 443 specifications. O-rings are manufactured for concrete pipe with diameters up to 18 inches.

3.06 FLUSHING AND TESTING STORM SEWER PIPELINES

- A. Visual Inspection
 1. As work progresses, each section of pipe shall be examined for interior damage to the pipe or the lining and all joints shall be checked for smoothness and continuity.
 2. Any chips, cracks, faulty joints, or other defects shall be corrected by the Contractor at his expense.
- B. Pipeline Flushing
 1. If, through inspection, it is determined the pipeline has debris, the Contractor, at the end of the job, shall flush the pipelines by means that are in accordance with good practice to insure that earth, sand, rocks or other foreign materials are removed from the interior of the pipeline.
- C. Alignment and Deflection (PVC Storm Sewer):
 1. Sewer pipelines will be checked by the Engineer to determine whether any displacement of the pipe has occurred after backfilling.
 2. Deflection tests shall be performed by the Contractor on all PVC stormsewers. Deflection tests shall be conducted after the final backfill has been in place at least 30 days, but not more than 45 days after the final backfill has been in place.
 - a. Deflection tests shall be made using a deflection gauge (mandrel) device or other rigid go-no-go approved device. The diameter of the deflection gauge device shall be 95 percent of the undeflected inside diameter of the flexible pipe. The Contractor shall be required to install the pipe in such a manner so that the diametric deflection of the pipe shall not exceed 5 percent. All pipes exceeding the 5 percent deflection shall be relaid or replaced by the Contractor at no additional cost to the Owner.
- D. Alignment and Grade (Concrete Storm Sewer)
 1. Pipelines will be checked by the Engineer to determine whether any displacement of the pipe has occurred after the trench has been bedded to an elevation 12 inches above the pipe and tamped as specified.
 2. The test will be as follows:
 - a. A light will be flashed between manholes, or, if the manholes have not as yet been constructed, between the locations of the manholes by means of a flashlight or by reflecting sunlight with a mirror.
 - b. If the illuminated interior of the pipeline shows poor alignment, displaced pipe, earth or other debris in the pipe or any other kinds of defects, the defects, determined by the Engineer, shall be remedied by the Contractor at his own expense. Test will be repeated after completion of backfilling and any poor alignment, displaced pipe or other defects, as determined by the Engineer, shall be corrected by the Contractor at his own expense.

END OF SECTION

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**SECTION 33 4213
STORMWATER CULVERTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pipe culvert, joints and accessories.
- B. Bedding and slope protection at pipe end.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete grout fill to adjacent construction.
- B. Section 31 2316 - Excavation: Excavating of trenches.
- C. Section 31 2316.13 - Trenching: Excavating, bedding, and backfilling.
- D. Section 31 2323 - Fill: Bedding and backfilling.
- E. Section 31 3213.16 - Cement Soil Stabilization.
- F. Section 31 3213.19 - Lime Soil Stabilization.
- G. Section 31 3700 - Riprap.

1.03 PRICE AND PAYMENT PROCEDURES

- A. See Section 01 2200 - Unit Prices, for additional unit price requirements.
- B. Pipe Culvert: By the total linear foot invert length of pipe including tapered ends and the diameter in inches. Includes hand trimming, excavating; removing soft subsoil, bedding fill, compacting; pipe, fittings and accessories assembled; repair of damaged coating.

1.04 REFERENCE STANDARDS

- A. ASTM A929/A929M - Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe; 2018.
- B. ASTM C14 - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe; 2020.
- C. ASTM C14M - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, Culvert Pipe (Metric); 2020.
- D. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe; 2019b.
- E. ASTM C76M - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (Metric); 2019b.
- F. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets; 2020.
- G. ASTM C443M - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric); 2020.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week prior to commencing work of this section.

1.06 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on pipe, fittings and accessories.
- C. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- D. Accurately record actual locations of pipe runs, connections, and invert elevations.

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- E. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

PART 2 PRODUCTS

2.01 CULVERT PIPE, GENERAL

- A. Regulatory Requirements: Comply with applicable code for materials and installation of the work of this section.

2.02 STEEL CULVERT PIPE

- A. Manufacturers:
 - 1. Thompson Culvert Co; ____: www.thompsonculvert.com/#sle.
 - 2. _____.
 - 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Corrugated Steel Pipe: Fabricated of ASTM A929/A929M galvanized steel sheet:
 - 1. _____ end joints.
 - 2. Helical lock seam.
 - 3. Coated inside and out with 0.050 inch thick bituminous coating.
 - 4. Shape: Circular, with nominal diameter of _____.
- C. Tapered Ends: Same material as pipe, machine cut, for joining to pipe end.
- D. Coupling Bands: Galvanized steel, 0.052 inches thick x 10 inches wide; connected with two neoprene "O" ring gaskets and two galvanized steel bolts.

2.03 CONCRETE CULVERT PIPE

- A. Manufacturers:
 - 1. Hanson Pipe & Precast; ____: www.hansonpipeandprecast.com/#sle.
 - 2. _____.
 - 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Concrete Pipe: Nonreinforced, ASTM C14 (ASTM C14M), Class 1:
 - 1. Bell and spigot end joints.
 - 2. Shape: Circular with a nominal diameter of ____ inches.
- C. Concrete Pipe: Reinforced, ASTM C76 (ASTM C76M), Class I with Wall Type A; mesh reinforcement; bell and spigot end joints:
 - 1. Shape: Circular with a nominal diameter of ____ inches.
- D. Reinforced Concrete Pipe Joint Device: ASTM C443 (ASTM C443M) rubber compression gasket joint.

2.04 BEDDING AND COVER MATERIALS

- A. Bedding: As specified in Section 31 2316.13.
- B. Cover: As specified in Section 31 2316.13.

2.05 ACCESSORIES

- A. Filter Fabric: Non-biodegradable, woven, _____. Provide _____ manufactured by _____.
- B. Fill at Pipe Ends: Soil cement material blend as specified in Section 31 3213.16 with 6 percent cement, premixed and burlap bagged for moist cure on site.
- C. Fill at Pipe Ends: Riprap as specified in Section 31 3700.
- D. Fill at Pipe Ends: Concrete grout fill as specified in Section 03 3000.
- E. End of Culvert Gratings: Square woven steel wire mesh of ____ inch size wire to a grid of ____ x ____ inch.
- F. End of Culvert Gratings: _____.

PART 3 EXECUTION

3.01 EXCAVATING

- A. See Section 31 2316.13 - Trenching for additional requirements.
- B. See Section 31 2316 - Excavation and Section 31 2323 - Fill for additional requirements.
- C. Excavate culvert trench to 12 inches below pipe invert. Hand trim excavation for accurate placement of pipe to elevations indicated.
- D. Place filter fabric over compacted backfill.

3.02 INSTALLATION - PIPE

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.
- B. Install pipe and accessories in accordance with manufacturer's instructions
- C. Lift or roll pipe into position. Do not drop or drag pipe over prepared bedding.
- D. Shore pipe to required position; retain in place until after compaction of adjacent fills. Ensure pipe remains in correct position and to required slope.
- E. Repair surface damage to pipe protective coating with two coats of compatible bituminous paint coating.
- F. Install culvert end gratings.

3.03 PIPE ENDS

- A. Place fill at pipe ends, at embankment slopes.
- B. Installed thickness: ____ inch average.

3.04 TOLERANCES

- A. Lay pipe to alignment and slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet.
- B. Maximum Variation From Intended Elevation of Culvert Invert: 1/2 inch.
- C. Maximum Offset of Pipe From True Alignment: 1 inch.
- D. Maximum Variation in Profile of Structure From Intended Position: 1 percent.

3.05 PROTECTION

- A. Protect pipe and bedding from damage or displacement until backfilling operation is in progress.

END OF SECTION

**SECTION 33 4220
PIPE CULVERTS**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes reinforced concrete and/or corrugated metal culverts as specified and shown on plans.

1.02 OTHER REQUIREMENTS SPECIFIED ELSEWHERE

- A. Section 31 2322 - Trenching, Backfilling, and Compacting

1.03 MEASUREMENT AND PAYMENT

- A. Unit Price Contracts:
 - 1. Pipe culvert will be measured by the linear foot of the respective type, class, and size installed.
 - 2. Payment will be at the Contract unit price per linear foot.
 - 3. Flared end sections for pipe will be measured and paid for by the unit each, complete and in place.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Corrugated Metal Pipe:
 - 1. Conform with AASHTO M-36.
 - 2. Minimum 16 gage unless called for otherwise.
 - 3. Flared End Sections: Same requirements as pipe.
 - 4. Fabricated Fittings:
 - a. Conform with pipe material requirements.
 - b. Continuously welded at joining surfacing of fabrication.
- B. Structural Plate Pipe:
 - 1. Conform to requirements of AASHTO M167 or M219.
- C. Reinforced Concrete Pipe:
 - 1. Conform to requirements of AASHTO M170, M206, and M207.
 - 2. Materials:
 - a. Cement: Portland Cement, Type II.
 - b. 28 day compressive strength: 4000 psi.

PART 3 - EXECUTION

3.01 TRENCHING

- A. Comply with applicable portions of Section 31 2322 - Trenching, Backfilling, and Compacting.

3.02 PIPE LAYING

- A. Corrugated Metal Culverts:
 - 1. Lay with outside laps of circumferential joints pointing upstream, and with the longitudinal laps on the sides.
 - 2. Pipe segments shall be approximately one inch apart to enable corrugations of the bands to mesh with the corrugations of the pipe.
- B. Concrete Pipe Culvert:
 - 1. Lay with groove or bell end upstream.
 - 2. Wrap joints with 12" wide geotextile fabric (AMOCO 2002 or Engineer approved equal). Cover minimum 80% of pipe circumference.
 - 3. Cement cover in place with asphaltic cement.

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3.03 BEDDING

- A. Bed pipe on a 4" uniform clay bottom.
- B. Place bedding material carefully along side and under the pipe haunches to a depth of about 1/3 the height of the pipe.
- C. Tamp bedding material thoroughly using mechanical hand tampers.

3.04 BACKFILL

- A. From the top of the bedding material to a depth at least two feet over the pipe, place embankment material in 6" lifts (loose depth) and compact mechanically to the required density (95% of Standard Proctor).
- B. Backfill shall be full trench width or at least 12 feet if no trench is required.

END OF SECTION

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
STEEL BEAM GUARDRAIL
AASHTO M 180 DESIGNATION**

OCTOBER 8, 2024

Section 630.2 B. – Page 427 – Delete and replace with the following:

B. Beam Guardrail:

For all projects let prior to January 1, 2027 the following shall apply:

Beam guardrail will conform to AASHTO M 180-18, Type I, or AASHTO M 180-23, Type I, unless the plans specify another type.

For all projects let January 1, 2027 and after the following shall apply:

Beam guardrail will conform to the most recent, at the time of the letting, version of AASHTO M 180, Type I, unless the plans specify another type.

Section 630.2 C. – Page 427 – Delete and replace with the following:

C. Bolts, Nuts, and Washers:

For all projects let prior to January 1, 2027 the following shall apply:

Bolts, nuts, and washers will be as specified in AASHTO M 180-18 or AASHTO M180-23.

For all projects let January 1, 2027 and after the following shall apply:

Bolts, nuts, and washers will be as specified in the most recent, at the time of the letting, version of AASHTO M 180.

* * * * *

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
ACKNOWLEDGEMENT AND CERTIFICATION REGARDING
ARTICLE 3, SECTION 12
OF THE SOUTH DAKOTA CONSTITUTION**

AUGUST 24, 2023

In accordance with the State of South Dakota Office of the Governor Executive Order 2023-13, the following will apply to all contracts:

The Contractor acknowledges and certifies that the following information is correct:

CERTIFICATION OF NO STATE LEGISLATOR INTEREST:

Contractor (i) understands neither a state legislator nor a business in which a state legislator has an ownership interest may be directly or indirectly interested in any contract with the State that was authorized by any law passed during the term for which that legislator was elected, or within one year thereafter, and (ii) has read South Dakota Constitution Article 3, Section 12 and has had the opportunity to seek independent legal advice on the applicability of that provision to this contract. By signing this contract, Contractor hereby certifies that this contract is not made in violation of the South Dakota Constitution Article 3, Section 12.

It is understood and agreed that, if this certification is false, such false certification will constitute grounds for the Department to terminate the contract.

The Contractor further agrees to provide immediate written notice to the Department if during the term of the contract it no longer complies with this certification and agrees such noncompliance may be grounds for contract termination.

* * * * *

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
BUY AMERICA**

MAY 1, 2024

Section 6.9 – Page 46 – Delete and replace with the following:

6.9 BUY AMERICA – Iron & steel, manufactured (composite) products, and construction materials must be produced in the United States in accordance with these Buy America requirements. Buy America preference applies to articles, materials, and supplies required to be consumed in, permanently incorporated into, or affixed to the completed project. Buy America preference does not apply to tools, equipment, and supplies such as temporary works and other temporary items brought to the project and removed at or before the final completion of the project. Temporary items are items that are not part of contract specifications, items that are not required in the design or final working drawings, and items that are removed or could be removed but allowed to remain in place if requested by the Contractor and approved by the Engineer.

A. Certification: The following category-based requirements will apply for each article, material, or supply.

- 1. Iron & Steel:** A statement will be included on the certification stating whether the iron or steel is of domestic or foreign origin. The Department will consider iron & steel that does not require separate certification in accordance with the Department’s Materials Manual as miscellaneous iron & steel. The Contractor will provide the Department a completed and signed Miscellaneous Materials Buy America Certificate stating the miscellaneous iron & steel required to be consumed in, permanently incorporated into, or affixed to the completed project complies with the Buy America requirements specified herein.
- 2. Manufactured (Composite) Products:** Due to an existing nationwide waiver, manufactured (composite) products currently have no specific requirements.
- 3. Construction Materials:** Construction materials and construction materials currently on the Department’s Approved Products List will be treated as “Tier 1” items in accordance with the Required Samples, Tests, and Certificates (RSTC) section of the Department’s Materials Manual. The

Contractor will provide the Department a completed and signed Miscellaneous Materials Buy America Certificate stating the construction materials required to be consumed in, permanently incorporated into, or affixed to the completed project complies with the Buy America requirements specified herein.

B. Determination of Material Category: The Department, in the Department's sole discretion, will classify an article, material, or supply into one of the following categories, (1) Iron & Steel, (2) Manufactured (Composite) Product, (3) Construction Material, or (4) Excluded Material. Articles, materials, and supplies will be considered to fall into only one single category of Buy America requirements. Some contract items are composed of multiple components that may fall into different categories. Individual components and composite items will be classified based on their nature when they arrive on the work site.

1. Iron & Steel: The Department will classify items wholly or predominantly composed of iron or steel or a combination of both as iron & steel.

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

2. Manufactured (Composite) Products: The Department will classify items not specifically classified as iron & steel, construction materials, or excluded materials which are fabricated, combined, or manufactured through a manufacturing process into a commercially available composite item as manufactured (composite) products. The Department will classify items consisting of 2 or more of the listed construction materials combined through a manufacturing process as a manufactured (composite) product. The Department will classify items consisting of 1 of the listed construction materials combined with a material not listed through a manufacturing process as a manufactured (composite) product.

3. Construction Materials: The Department will classify only the materials specifically listed as construction materials as construction materials.

Minor additions of articles, materials, supplies, or binding agents to a construction material will not change the categorization of the construction material.

4. Excluded Materials: The Department will classify cement and cementitious materials; aggregates such as stone, sand, or gravel; and aggregate binding agents or additives as excluded materials.

C. Iron & Steel: Structural steel and other iron and steel products will be produced in the United States. To be considered produced in the United States, all manufacturing processes, from the initial melting stage through the application of coatings, must occur in the United States. The application of a coating is interpreted to mean all processes that protect or enhance the value of material or product to which it is applied; examples are epoxy coatings, galvanizing, and painting.

Buy America does not apply to iron ore, scrap, pig iron, and processed, pelletized, and reduced iron ore.

If iron ingots or steel billets produced in the United States are sent out of the country for a subsequent manufacturing process and then are brought back into the United States, the full value of the iron or steel as it reenters the country (including the original billet cost and any coatings) will be considered foreign.

If foreign iron or steel components are combined with other components into a fabricated or assembled manufactured (composite) product, the foreign iron or steel content of the manufactured (composite) product is not only the value of the foreign iron or steel components, but also the pro-rata value of the fabrication and assembly labor and overhead used in the combining the foreign iron or steel and other components into the finished manufactured (composite) product, including coatings.

D. Manufactured (Composite) Products: Iron and Steel components of manufactured (composite) products will comply with the Buy America requirements for iron & steel. Due to an existing nationwide waiver, manufactured (composite) products without iron and steel components currently have no specific requirements.

E. Construction Materials: Construction materials will be produced in the United States. Each construction material is followed by a standard for the material to be considered produced in the United States.

A construction material is an article, material, or supply that is one of the following:

1. Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
2. Plastic and polymer-based products including polyvinylchloride, composite building materials, and polymers used in fiber optic cables. All manufacturing processes, from initial combination of constituent plastic or

polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

3. Glass including optic glass. All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
 4. Fiber optic cable including drop cable. All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
 5. Optical fiber. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
 6. Lumber. All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.
 7. Engineered wood. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.
 8. Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- F. Unavailability of Compliant Items:** If the Contractor discovers a Buy America compliant item or items does not exist or an item becomes unavailable, the Contractor will immediately notify the Department. The Contractor will furnish written documentation of the Contractor's complete efforts to obtain a compliant item. This documentation will include a complete contact log with dates and times of the Contractor's efforts to obtain a compliant item, the responses received, and any correspondence between the Contractor and potential suppliers of the item which demonstrate efforts to obtain a compliant item. If, based on review of the documentation provided, the Department determines all potential options to obtain a compliant item have been exhausted; the Department will determine the appropriate course of action.
- G. Non-Compliant Items:** If the Engineer, in the Engineer's sole discretion, determines an article, material, or supply provided to the project does not comply with these Buy America requirements but is available; the following will apply:

1. If the non-compliant item is not permanently incorporated into the completed work, the Contractor will not permanently incorporate the item and will replace the non-compliant item with an item that complies with the Buy America requirements specified herein at the Contractor's expense.
2. If the non-compliant item has been permanently incorporated into the completed project; the Engineer, in the Engineer's sole discretion, will determine if the non-compliant item must be removed and replaced including any completed work at the Contractor's expense or if the non-compliant item may remain in place in accordance with both of the following requirements:
 - a. Minor quantities of non-compliant iron & steel may be incorporated in the Department's sole discretion based on the Department's review of the Contractor's documented invoiced material costs, provided the invoiced material costs of all non-compliant iron & steel do not exceed 0.1% of the total contract amount or \$2,500, whichever is greater.
 - b. Minor quantities of non-compliant iron & steel and construction materials may be incorporated in the Department's sole discretion based on the Department's review of the Contractor's documented invoiced material costs, provided the total value of the non-compliant items does not exceed 5.0% of the total applicable costs for the project or \$1,000,000, whichever is less.

The total value of the non-compliant items will include non-compliant iron & steel and non-compliant construction materials. The total value of the non-compliant items will not include excluded materials, manufactured (composite) products, or other items within the scope of an existing Buy America waiver.

The total value of an item includes the cost of the material plus the cost of transportation to the project site, as evidenced by delivery receipt, but does not include the labor costs to assemble and install at the project site.

The total applicable project costs will be defined as the total value of materials used in the project that are subject to a domestic preference requirement, including the total value of any iron & steel, construction materials, manufactured (composite) products, and other items within the scope of an existing Buy America waiver. The total applicable project costs will not include excluded materials.

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
LIABILITY INSURANCE**

APRIL 21, 2022

Section 7.15 – Page 50 – Delete and replace with the following:

7.15 LIABILITY INSURANCE - The Contractor will procure and maintain at the Contractor's expense, during duration of the contract, liability insurance with an insurance company authorized to do business in the state of South Dakota, for damages imposed by law. The insurance will cover all operations under the contract, whether performed by the Contractor or by subcontractors, and will name the State of South Dakota, the Department, and the Department's officers and employees as additional insureds, but liability coverage is limited to claims not barred by sovereign immunity. The State of South Dakota, the Department, and the Department's officers and employees do not hereby waive sovereign immunity for discretionary conduct as provided by law. Before commencing the work, the Contractor will furnish certificates of insurance, certifying that the policies will not be changed or cancelled until 30 calendar days' written notice has been given to the Department.

The certificates of insurance will provide evidence that the Contractor carries sufficient liability insurance to protect the public from injuries sustained by reason of pursuing the work, and that Workers' Compensation Insurance meets the requirements of the South Dakota Workers' Compensation Law.

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
RESPONSIBILITY FOR DAMAGE CLAIMS**

APRIL 21, 2022

Section 7.14 – Page 50 – Delete and replace with the following:

7.14 RESPONSIBILITY FOR DAMAGE CLAIMS - The Contractor will indemnify the State of South Dakota, the Department, and the State's officers and employees, from all suits, actions, or claims of any character, including suits in which the State, Department, or the State's officers and employees are sued, brought because of any injuries or damages received or sustained by any person, persons, or property arising at least in part from the Contractor's operations; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workers' Compensation Act", or any other law, ordinance, order, or decree. The Contractor's obligation to indemnify will include the payment of reasonable attorney fees and other costs of defense. So much of the money due the Contractor under and by virtue of the contract as may be considered necessary by the Department for such purpose may be retained for the use of the State; or in case no money is due, the Contractor's surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid will have been settled and suitable evidence to that effect furnished to the Department. Money due the Contractor will not be withheld when the Contractor produces satisfactory written confirmation from the Contractor's insurer that adequate public liability insurance and property damage insurance providing coverage for such particular claims as may be made is in force, and the Contractor provides evidence the claim has been submitted to the Contractor's insurer. A copy of a certificate of insurance, without further confirmation of coverage for the particular claim being made, will not be sufficient to satisfy the requirement of written confirmation.

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
RESTRICTION OF BOYCOTT OF ISRAEL**

JANUARY 31, 2020

In accordance with the State of South Dakota Office of the Governor Executive Order 2020-01 the following will apply to all contracts unless the amount being bid is less than \$100,000:

By submitting a bid proposal for this contract, the bidder certifies and agrees the following information is correct for the bidder and all subcontractors (all tiers) and suppliers with five (5) or more employees:

The bidder, in preparing the bid proposal or in considering proposals submitted from qualified potential suppliers and subcontractors, or in the solicitation, selection, or commercial treatment of any supplier or subcontractor; has not refused to transact business activities, has not terminated business activities, and has not taken other similar actions intended to limit its commercial relations, related to the subject matter of the bid proposal, with a person or entity on the basis of Israeli national origin, or residence or incorporation in Israel or its territories, with the specific intent to accomplish a boycott or divestment of Israel in a discriminatory manner. It is understood and agreed that, if this certification is false, such false certification will constitute grounds for the Department to reject the bid proposal submitted by the bidder on this contract and terminate any contract awarded based on the bid. The bidder agrees to provide immediate written notice to the Department if, during the term of the contract awarded to the bidder, the bidder no longer complies with this certification. The bidder further agrees such noncompliance may be grounds for contract termination.

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
CONTRACTOR ADMINISTERED PRECONSTRUCTION MEETING**

DECEMBER 18, 2019

I. DESCRIPTION

This work consists of the Contractor scheduling and conducting a preconstruction meeting prior to beginning work on this contract. Additionally, this work consists of the Contractor providing the Area Engineer a completed list of required submittals.

II. MATERIALS (Not Specified)

III. CONSTRUCTION REQUIREMENTS

The Area Engineer will provide the Contractor the Authorization Form for Preconstruction Meeting (Form DOT-270) and the Contractor's Required Submittals Form (Form DOT-272) after the date of the Notice of Award and no later than 10 business days after the date of the Notice to Proceed.

The Contractor's authorized representative as indicated on the Signature Authorization Form (Form DOT-209) will complete, in its entirety, the first page of the Authorization Form for Preconstruction Meeting and will initial each proceeding section. By initialing each section, the Contractor is confirming comprehension of each section.

The Contractor's Required Submittals Form is a document outlining information required prior to the completion of the project. This list will include two types of submittals; 1) information required before scheduling a preconstruction meeting and 2) information required before the Contractor begins related work. The Department reserves the right to request additional information not included in the original list of required submittals. The list of required submittals will include, but is not limited to, proposed sequence changes, shop drawings, permits, certifications, mix designs, labor compliance, equal employment opportunity, and disadvantaged business enterprise documents. The Area Engineer will update the Contractor's Required Submittals Form with any project specific requirements and cross out or delete those that do not apply prior to providing the document to the Contractor.

Prior to scheduling the preconstruction meeting, the Contractor will complete and provide the Area Engineer all items on the list of required submittals that are

required as described in 1) above. If the Contractor cannot complete and provide a submittal item required prior to scheduling the preconstruction meeting, the Contractor will contact the Area Engineer to establish a mutually agreed upon date when the required submittal will be completed and provided to the Area office.

The Contractor will not begin work on an item until the Contractor has provided the Area Engineer with all required information for the applicable work item and the appropriate office has approved the information, if necessary. The Contractor will make every reasonable effort to deliver the required submittals at the earliest possible time.

When the Contractor has provided the Area Engineer all required submittals, except those mutually agreed upon to be provided at a later date or dates, the Contractor will schedule a preconstruction meeting with the Area Engineer.

Within 2 business days following the Contractor scheduling the preconstruction meeting, the Area Engineer will prepare and send the Contractor a meeting confirmation and the Preconstruction Meeting Outline (Form DOT-271).

The Area Engineer will edit and amend the Preconstruction Meeting Outline, as necessary, to meet the specific needs of the project. The Area Engineer will complete the project information and the Department information prior to furnishing the form to the Contractor.

The Contractor will complete the Contractor's portion of the Preconstruction Meeting Outline and will add additional discussion items as needed. The Contractor will send the meeting notice and final Preconstruction Meeting Outline to the Area Engineer, all subcontractors, utility companies, railroad companies (if applicable), and all suppliers at least 5 business days prior to the preconstruction meeting.

The Area Engineer will send the notice of the meeting and the final Preconstruction Meeting Outline of discussion items to any other government entities and other principle stakeholders involved in the project at least 3 business days prior to the preconstruction meeting.

At the discretion of the Area Engineer, the preconstruction meeting may be held in person, videoconference, or over the phone. The Contractor's competent superintendent who will be working on this project, as required by Section 5.5, or the Contractors Project Manager, as required by the Special Provision for Cooperation by Contractor and Department (if applicable), is required to attend the preconstruction meeting.

The Contractor will lead the meeting discussion as described in the Preconstruction Meeting Outline. The Area Engineer will prepare the meeting minutes including any unresolved items and distribute the minutes to all attendees

and principle stakeholders within 5 business days following the preconstruction meeting.

IV. METHOD OF MEASUREMENT

The Department will not make a separate measurement for the preconstruction meeting.

V. BASIS OF PAYMENT

The Department will not make a separate payment for the preconstruction meeting. All costs associated with the preconstruction meeting will be incidental to other contract items.

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FUEL ADJUSTMENT AFFIDAVIT

Project Number _____
PCN _____
County _____

For project let using the SDEBS) and in accordance with Section 9.12, the bidder is not required to notify the Department at the time of submitting bids whether the Contractor will or will not participate in the fuel cost adjustment program. Prior to execution of the contract, the successful bidder must submit this completed form to the Department for approval. The Fuel Adjustment Affidavit shall include the anticipated fuel cost of subcontractors.

Does your company elect to participate in a fuel adjustment for this contract for the fuels that do not have a fixed price? No adjustments in fuel prices will be made if "No" is checked.

Yes No

If yes, provide the total dollars for each of the applicable fuels. No adjustments in fuel price will be made for the fuel types that are left blank or completed with a \$0.00 value.

Diesel (x) \$ _____

Unleaded (y) \$ _____

Burner Fuel (z) \$ _____ Type of Burner Fuel Used: _____

Sum (x + y + z) = \$ _____

Note: The sum of the x, y, and z may not exceed 15% of the original contract amount.

The following must be completed regardless of whether the Contractor elects to participate in the fuel adjustment affidavit

Under the penalty of law for perjury or falsification, the undersigned, _____,
(Printed Name)
_____ of _____,
(Title) *(Contractor)*

hereby certifies that the documentation is submitted in good faith, that the information provided is accurate and complete to the best of their knowledge and belief, and that the monetary amount identified accurately reflects the cost for fuel, and that they are duly authorized to certify the above documentation on behalf of the company.

I hereby agree that the Department or its authorized representative shall have the right to examine and copy all Contractor records, documents, work sheets, bid sheets, and other data pertinent to the justification of the fuel costs shown above.

Dated _____ Signature _____

Notarization is required only when the Contractor elects to participate in the fuel adjustment affidavit

Subscribed and sworn before me this _____ day of _____, 20____.

Notary Public

My Commission Expires

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**STANDARD TITLE VI / NONDISCRIMINATION ASSURANCES
APPENDIX A & E**

MARCH 1, 2016

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 (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements 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 procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or

is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
DISADVANTAGED BUSINESS ENTERPRISE**

FEBRUARY 9, 2024

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of Department-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate.

I. Definitions

- A. Specified Goal:** A DBE participation goal for a contract as indicated by a specific numerical percentage of the total dollar amount of the contract in the bidding documents.
- B. Not Specified:** No specific DBE participation goal is specified for a contract.
- C. Disadvantaged Business Enterprise (DBE):** A for-profit small business that is certified by the Department and is listed in the DBE Directory available on the Department's web site.
- D. Good Faith Effort (GFE):** Efforts to achieve a DBE goal which; by their scope, intensity, and appropriateness to the objective; can reasonably be expected to meet the objective of the Department's DBE program pursuant to 49 CFR 26.1.
- E. Positive Contact:** Communication between the bidder and the DBE in which the bidder receives an oral or written response from the DBE stating the DBE's intention to quote or not quote a project.
- F. Commitment:** The dollar amount of work to be subcontracted to DBEs, according to the bidder's bid. The commitment may be compared to the dollar amount of all contract items in the bidder's bid and expressed as a percentage of the total bid amount.
- G. Reasonable Effort:** For projects when goals are not specified, bidders are encouraged to solicit all certified DBEs listed in the appropriate work classifications in the DBE directory that have indicated in the directory they are

willing to work in the project's geographic area and also those that are listed on the plan holders list.

II. Bidding Requirements

A bidder must not discriminate on the basis of race, color, national origin, or sex in the solicitation or award to subcontractors and material suppliers. Bidders who demonstrate a pattern of possible discrimination through consistent and repeated under-utilization of DBEs may be subject to investigation and sanctions allowed by regulation, administrative rule, or law.

The Bidder's failure to carry out the requirements of this special provision will be treated as a non-responsive bid.

On contracts that specify a specific DBE contract participation goal, all bidders must include their DBE commitment for the contract in the bidding files provided by the Department.

If the contract indicates "Not Specified," all bidders are encouraged to include their anticipated DBE utilization for the contract in the bidding files provided by the Department.

Each bidder must submit a list of all subcontractors and suppliers (DBEs and non-DBEs) the bidder received quotes from for that contract with the bid files.

A Contractor must make reasonable efforts to provide opportunities for DBEs to participate on Federal-aid contracts throughout the life of the contract.

On contracts let with a specified DBE contract participation goal, where the low bidder has not met or exceeded that goal, upon request from the Department all bidders who did not meet or exceed the goal must provide GFE documentation as indicated in Section III of this special provision.

When the DBE participation is "Not Specified" on a contract, each bidder is encouraged to use DBE Contractors; however no bidder will be required to furnish GFE documentation.

Bidders must submit GFE documentation, when requested by the Department, within 2 business days from the date bidders are contacted by the Department. Section III of this special provision provides information on the types of action bidders should make as part of their GFE to obtain DBE participation. Bidders may submit documentation with the bidding files provided all pertinent information is included. Bidders must submit any missing documentation within 2 business days from the date the Department contacts the bidder. If the bidder fails to comply with this requirement, the Department will consider the bid proposal irregular and may reject the bid proposal.

If the apparent low bidder does not provide documentation showing GFE as required by this special provision, the Department will consider that bid nonresponsive and may either award the contract to the next lowest responsible bidder with a responsive bid, or reject all bids. Subsequent to the DBE committee's decision that the apparent low bidder's efforts do not establish GFE, the apparent low bidder will be notified that the bid is not responsive. The apparent low bidder will have 2 business days from the date of notification to contact the Bid Letting Engineer to arrange a meeting with the Department Secretary, or the Secretary's designee, to present documentation and argument about why the bid should not be rejected. The Department Secretary or the Secretary's designee will issue a written decision on responsiveness of the bid within 2 business days after the meeting.

If the apparent low bid is rejected for failure to meet the GFE or other requirements, the next apparent low bidder's GFE will be reviewed, unless all bids are rejected. Unless all bids are rejected, award of the contract will be made to the lowest bidder with a responsive bid.

The lowest responsive bidder on a project with a specified goal will be required to complete form DOT-289B, as included in the contract documents, when the contract is sent for signature. This form requires a signature from each DBE identified in the low bidder's DBE commitment. A separate form will be supplied for each DBE and will be included in the contract documents.

Bidders are encouraged to assist interested DBEs in obtaining bonding, lines of credit, insurance, necessary equipment, supplies, materials, or other related services.

III. Good Faith Efforts

If a GFE package is requested on a contract with a specified goal, the bidders must submit documentation showing compliance with the following requirements:

- A.** The bidders will submit a contact log of all solicitation efforts including:
- Name of the DBE firm
 - Name and phone number of the individual with whom contact was made
 - Date, time, and manner of each and every contact (by phone, in person, fax, mail, e-mail, etc.)
 - The DBE's response to the solicitation
 - Result of the solicitation effort

An example of a solicitation log is available on the Department's Bid Letting website. When bidding utilizing the South Dakota Department of Transportation Electronic Bid System (SDEBS), SDEBS may be used to document the log of solicitation efforts for the project.

- B.** The bidders will also submit documentation that shows GFE in relation to the following requirements:
- 1.** The bidder must select contract work items to encourage DBE participation. This includes breaking out contract work items into economically feasible units to facilitate DBE participation, even when the bidder might otherwise prefer to perform these work items with its own forces.
 - 2.** The bidder must solicit all certified DBEs that are listed in the appropriate work classifications in the DBE directory and that have indicated in the directory they are willing to work in the project's geographic area. Without exception, all DBEs who are listed on the plan holders list by 10 AM central time 7 calendar days prior to the bid letting must be solicited in accordance with Section III.B.3 of this special provision. If the bidder has not solicited any DBE meeting these requirements, the bidder will provide a detailed written explanation showing why the DBE was not solicited.
 - 3.** To provide adequate time for the DBE to respond with a quote in the normal course of business, the bidder must make the initial solicitation at least 6 calendar days by mail or 5 calendar days by phone, fax, or e-mail prior to the letting date. Without exception, all DBEs who are listed on the plan holders list by 10 AM central time 7 calendar days prior to the bid letting must be solicited.
 - 4.** If the bidder does not receive a positive contact from a DBE, the bidder must follow up the initial solicitation with a second solicitation by phone, fax, or e-mail to determine whether the DBE is interested in quoting. The bidder must make this second solicitation at least 2 business days prior to the letting.
 - 5.** The bidder will provide interested DBEs with adequate and timely information about plans, specifications, and requirements of the contract to assist DBEs in responding to a solicitation.
 - 6.** If a bidder rejects a DBE quote because of previous problems with a particular DBE, the bidder must prepare a detailed written explanation of the problem. Additional cost involved in finding and using DBEs is not, in itself, sufficient reason for a bidder to reject a quote. A bidder must not reject a DBE as being unqualified without sound reasons based on a thorough investigation of the DBE's capabilities.
 - 7.** Any additional information requested by the Department.
- C.** The bidder must consider qualified DBEs whose quotes are reasonably competitive. If the bidder rejects any quote because it is considered not to be "reasonably competitive," the bidder must provide copies of all DBE and non-

DBE quotes, and a work item price spreadsheet comparing DBE quotes to non-DBE quotes. The spreadsheet must show which quote was included in the bid for the work items being compared. The ability or desire of a bidder to perform the work with its own forces does not relieve the bidder of the responsibility to make GFE. In the event a bidder elects to use its own forces over a DBE, the bidder must include, on the spreadsheet, documentation of the costs of using the bidder's own forces. This can be shown in a number of ways, which may include submitting portions of the bidder's work sheets used to prepare the bid.

- D. The bidder must explain why the specified goal could not be met.
- E. The bidder must identify any additional efforts the bidder made to secure DBE participation.

IV. Counting DBE Participation

On projects with a specified goal, the contract commitment, as submitted with the bid, will be documented on form DOT-289R/C as included in the contract documents.

If the project is shown as "Not Specified," the anticipated DBE utilization, as submitted with the bid, will be documented on form DOT-289 R/N – DBE Utilization Form, as included in the contract documents. The DBE utilization shown on this form is not a commitment to use the DBE. This information will be used by the Department to track anticipated DBE usage.

Only the portion of a contract performed by the DBE's own forces will count toward DBE participation. Included is the cost of supplies and materials obtained by the DBE for the contract, including supplies purchased or equipment leased by the DBE. Supplies and equipment the DBE subcontractor purchased or leased from the Contractor or its affiliate is not allowed to be included.

When a DBE performs as a participant in an approved joint venture, only the portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces will count toward DBE participation.

A bidder may count toward its DBE participation only that percentage of expenditures to DBEs that perform a commercially useful function (CUF) in the performance of a contract. A DBE performs a CUF when the DBE is responsible for execution of the work of a contract and is carrying out the DBE's responsibilities by actually performing, managing and supervising the work involved. To perform a CUF, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating prices, determining quality and quantity, ordering and installing (where applicable) the materials, and paying for the material itself. To determine whether a DBE is performing a CUF, the Department will

evaluate the amount of work subcontracted, the industry practice, and whether the amount the DBE is to be paid is commensurate with the work it is actually performing, DBE credit claimed for performance of the work, and other relevant factors.

A DBE is not performing a CUF if the DBE performs less than 30% of the total cost of its contract with its own work force, or if its role is limited to that of an extra participant in a transaction, project, or contract through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is simply an extra participant, the Department will examine similar transactions, particularly those in which DBEs do not participate.

DBE participation will be counted for trucking services as follows:

The bidder/Contractor will receive credit toward DBE participation for the total value of the transportation services the DBE provides on the contract using trucks the DBE owns, insures, and operates and which are driven by drivers the DBE employs.

A DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. When a DBE leases trucks from another DBE, the bidder/Contractor can count the total value of the transportation services the lessee DBE provides on the contract toward DBE participation.

The DBE may also lease trucks from a non-DBE firm, including an owner-operator. When a DBE leases trucks from a non-DBE, the bidder/Contractor can count toward DBE participation only the fee or commission the DBE receives as a result of the lease arrangement. The bidder/Contractor does not receive credit toward DBE participation for the total value of the transportation services, since all services are not provided by a DBE.

The bidder may count toward DBE participation expenditures to DBE firms for materials, supplies, or services as follows:

If the materials or supplies are obtained from a DBE manufacturer, count 100% of the cost of the materials or supplies toward DBE participation. A manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of general character described by the specifications.

If the materials or supplies are purchased from a DBE regular dealer, count 60% of the cost of the materials or supplies toward DBE participation. A regular dealer is a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials, supplies, articles, or equipment are

bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

If the materials or supplies are purchased from a DBE which is neither a manufacturer nor a regular dealer, count only the amount of fee or commission charged for assistance in the procurement of the materials or supplies or fee or transportation charges for the delivery of materials or supplies required at the job site toward DBE participation. In order to be counted, the Department must determine the fee to be reasonable and not excessive as compared to fees customarily allowed for similar services. The cost of the materials and supplies themselves will not count toward DBE goals.

The Department will not count toward DBE participation materials or services provided by a DBE who is not currently certified prior to and including the date of the Notice of Award. Additionally, the Department will not count toward DBE participation materials or services provided by a DBE who loses certification at any time after the date of the Notice of Award except in the case of a DBE whose ineligibility is caused solely by having exceeded the size standard.

No intended or actual subcontracting arrangement which is contrived to artificially inflate DBE participation is allowed. This includes, but is not limited to, DBE middlemen which serve no commercially useful function, or arrangements where a DBE is acting essentially as a broker of goods or services, but has been counted as a manufacturer, regular dealer, or subcontractor.

The Department will review and monitor projects for compliance with the bidder's intended DBE participation. Failure by the Contractor to fulfill the contract commitment constitutes a breach of contract. The Department may also investigate the form and substance of particular business arrangements between and among DBE and Contractors with regard to specific contracts. If, as a result of an investigation, the Department determines a particular business arrangement is not allowable, the dollar amount of the unallowable DBE participation will be subtracted from the Contractor's DBE participation on that project. The Contractor will be notified if the apparent DBE participation is not adequate to meet the DBE participation stated on the form DOT-289R/C. The Contractor will be directed to seek additional participation from other DBEs to meet the unallowable portion on that contract.

All Contractors and DBEs shall cooperate fully and promptly with the Department in compliance reviews, investigations, and other requests for information. If the Department determines a Contractor was a knowing and willing participant in an unallowable business arrangement, or in the event of repeated violations, falsification, or misrepresentation, the Department will impose sanctions. Sanctions may include, but are not limited to one or more of the following:

- Assessment of liquidated damages as stated in Section VII of this special provision
- Suspension of bidding privileges or debarment
- Withholding progress payments
- Securing additional DBE participation on future Federal-aid contracts sufficient to make up for the DBE participation found to be unallowable
- Referral of the matter for criminal prosecution

V. Joint Checks to DBEs

A joint check is a check issued by a prime Contractor to a DBE subcontractor and to a material supplier or another third party for items or services to be incorporated into a project. For a prime Contractor to receive DBE credit, the DBE must perform a commercially useful function and be responsible for negotiating price, determining quality and quantity, ordering materials and installing (where applicable) and paying for materials.

To ensure that the DBE is independent of the prime Contractor and in compliance with the regulation, use of joint checks will be reviewed and allowed only under following conditions:

- Issued for valid reasons only, not simply for the convenience of the prime Contractor
- Used for a specific contract or specific time frame and not long-term or open ended
- Payment is made to the DBE and not directly to the supplier
- Requested and received prior written approval from the DBE Compliance Officer.

The request must include the following:

- Name of the DBE
- The DOT contract number(s)
- The DOT PCN number(s)
- The work the DBE will be performing on each contract
- Name of the supplier(s) used by the DBE
- The specific reason(s) for issuing joint checks

The Department will review the request and verify the circumstances indicated in the request with the DBE. A copy of the request and approval will be provided to the prime Contractor and the DBE.

VI. Certification of DBE Performance and Payments

Within 30 calendar days of the date of the Acceptance of Field Work the Contractor is required to submit form DOT-289 (Certification of DBE Performance and

Payments), listing all DBEs that participated in the contract, and the total dollar amount paid (and anticipated to be paid) to each. DBE attainments are compared to commitments on form DOT-289R/C and any payments less than 90% of that commitment, without proper justification and documentation, will have liquidated damages assessed against the contract. The Contractor's final payment is not released until receipt of the form DOT-289.

Contractors are required to maintain a running tally of payments to DBEs. For reports of payments not being made in accordance with the prompt payment provision, alleged discrimination against a DBE or other similar complaint, the tally may be requested for review by the Department. The Department may perform audits of contract payments to DBEs to ensure that the amounts paid were as reported on the form DOT-289. All Contractors participating in Federal-aid contracts are expected cooperate fully and promptly with the Department in compliance reviews, investigations and other requests for information regarding payments to DBEs. Their failure to do so is grounds for appropriate sanctions or action against the Contractor.

The Department will monitor the running tally on a program basis and if reporting issues are identified, additional reporting requirements may be implemented.

The Contractor is required to report payments to DBEs twice a year from the date of the Notice to Proceed until the date of the Acceptance of Field Work. Reporting periods and deadlines for payment reporting submittals will be in accordance with the following:

| Reporting Period: | Reporting Deadline: |
|--------------------------|----------------------------|
| October 1 to March 31 | April 30 |
| April 1 to September 30 | October 31 |

For each reporting period, the Contractor is required to submit form DOT-289 listing all DBEs that participated in the contract, the payments to DBEs for that reporting period, and the total dollar amount paid to each DBE. For each reporting period after the Notice to Proceed, the Contractor will mark the form DOT-289 as "On-Going" when reporting payments to DBEs prior to the Date of the Acceptance of Field Work. Within 30 calendar days of the date of the Acceptance of Field Work and all DBE payments have been made, the Contractor is required to submit form DOT-289 and the Contractor will mark the form DOT-289 as "Final".

Each form DOT-289 must be provided to the Engineer by the reporting deadline stated above.

DBE payment are compared to commitment on form DOT-289R/C and any payment less than 90% of that commitment, without proper justification and documentation, will result in the Department assessing liquidated damages

against the contract. The Contractor's final payment will not be released until receipt of the form DOT-289 marked "Final".

VII. Liquidated Damages

A. If the Contractor does not meet its contract commitment documented on form DOT-289 R/C, the Department will assess liquidated damages according to the following schedule:

1. For the first \$1,000 DBE deficiency, 100% of the deficiency.
2. For the next \$9,000 DBE deficiency, 50% of the deficiency.
3. For the next \$10,000 DBE deficiency, 25% of the deficiency.
4. For any remaining DBE deficiency in excess of \$20,000, 10% of the deficiency.

This liquidated damage provision will not be applicable where actual payment to a DBE is within 90% of the commitment or where there are good and sufficient reasons, properly documented, for the deficiency such as quantity under-runs, project changes, or other unexpected occurrences.

B. If a Contractor finds it impossible, for reasons beyond its control, to meet the contract commitment on form DOT-289R/C, the Contractor may, at any time prior to completion of the project, provide a written request to the DBE Compliance Officer for a complete or partial waiver of liquidated damages. No request for a waiver will be accepted after Acceptance of Field Work has been issued.

VIII. Termination or Substitution of a DBE

The Contractor will not be allowed to terminate or substitute a DBE without the Department's prior verbal consent followed by written approval. This includes, but is not limited to, instances in where the Contractor desires to perform work originally committed to a DBE with its own forces, with an affiliated company, with a non-DBE, or with another DBE. Department approval is required when the contract contains a "specified goal" on form DOT-289R/C and the DBE to be terminated or substituted is listed as a commitment on the form DOT-289R/C.

The Department will provide written consent only if the Department agrees the Contractor has good cause to terminate the DBE listed on the form DOT-289R/C. Good cause includes the following:

- The DBE fails or refuses to execute a written contract

- The DBE fails or refuses to perform the work of the DBE subcontract in a manner consistent with normal industry standards or Department specifications unless the failure or refusal by the DBE is a result of unfair or discriminatory actions by the Contractor
- The DBE fails or refuses to meet the Contractor's reasonable nondiscriminatory bond requirements
- The DBE becomes bankrupt, insolvent, or exhibits credit unworthiness
- The DBE is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215, and 1,200 or applicable state law
- The Department has determined that the DBE is not a responsible Contractor
- The DBE voluntarily withdraws from the project and provided the Department with a written notice of withdrawal
- The DBE is found to be ineligible to receive DBE credit for the type of work required
- A DBE owner dies or becomes disabled with the result that the DBE is unable to complete its work on the contract
- Other documented good cause that the Department determines to substantiate the termination of the DBE.

Good cause does not exist if the Contractor seeks to terminate a DBE so the Contractor can self-perform the work for which the DBE was committed, or so the Contractor can substitute another DBE or non-DBE Contractor after the contract award.

Before submitting a request to terminate or substitute a DBE to the Department, the Contractor must first provide written notice to the DBE, with a copy of the notice to the DBE Compliance Officer, of the Contractor's intent to request to terminate or substitute, and the reason for the request.

The Contractor must give the DBE 5 calendar days to respond to the notice and advise the Department and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Department should not approve the Contractor's action. If required in a particular case as a matter of public necessity (e.g. safety), the Department may provide a response period shorter than 5 calendar days.

When a DBE is terminated or fails to complete its work on the contract for any reason, the Contractor must make good faith efforts to replace the committed DBE with another DBE. The Contractor must make efforts to find another DBE to perform the same amount of work under the contract as the DBE that was terminated. The letter to the Department requesting termination or substitution must include the name of the DBE and dollar amount of the replacement DBE. If the Contractor is unable to find another DBE, the Contractor must provide the

names of the DBEs it contacted and reason why they were unable to use those DBEs.

If the Contractor does not utilize or pay DBEs as required, liquidated damages will be assessed as specified in Section VII of this special provision. In addition, if the Contractor is found to have knowingly and willingly attempted to circumvent the DBE contract provisions, the Department will not make payment for the work that was originally committed to a DBE and the Department may impose sanctions referred to in Section IV of this special provision.

The Contractor does not need Department approval to terminate or substitute a DBE under the following circumstances:

- The DBE is being used on a contract with a “Specified Goal” however the DBE was not listed as a DBE commitment on form DOT-289R/C.
- The DBE was listed as an anticipated utilization on a “Not Specified” DBE goal contract on form DOT-289R/N.

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**SPECIAL PROVISION FOR EEO AFFIRMATIVE ACTION REQUIREMENTS ON
FEDERAL AND FEDERAL-AID CONSTRUCTION CONTRACTS**

FEBRUARY 5, 2024

**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:

Goals for minority participation for each trade

| | | | | | |
|-------------|------|------------|------|---------------|------|
| Aurora | 0.8% | Fall River | 7.9% | Marshall | 1.3% |
| Beadle | 0.8% | Faulk | 1.3% | Meade | 3.4% |
| Bennett | 7.9% | Grant | 1.3% | Mellette | 7.9% |
| Bon Homme | 1.2% | Gregory | 0.8% | Miner | 0.8% |
| Brookings | 0.8% | Haakon | 7.9% | Minnehaha | 1.2% |
| Brown | 1.3% | Hamlin | 1.3% | Moody | 0.8% |
| Brule | 0.8% | Hand | 0.8% | Oglala Lakota | 7.9% |
| Buffalo | 7.9% | Hanson | 0.8% | Pennington | 3.4% |
| Butte | 7.9% | Harding | 7.9% | Perkins | 7.9% |
| Campbell | 7.9% | Hughes | 7.9% | Potter | 7.9% |
| Charles Mix | 0.8% | Hutchinson | 0.8% | Roberts | 1.3% |
| Clark | 1.3% | Hyde | 7.9% | Sanborn | 0.8% |
| Clay | 1.2% | Jackson | 7.9% | Spink | 1.3% |
| Codington | 1.3% | Jerauld | 0.8% | Stanley | 7.9% |
| Corson | 7.9% | Jones | 7.9% | Sully | 7.9% |
| Custer | 7.9% | Kingsbury | 0.8% | Todd | 7.9% |
| Davison | 0.8% | Lake | 0.8% | Tripp | 7.9% |
| Day | 1.3% | Lawrence | 7.9% | Turner | 0.8% |
| Deuel | 1.3% | Lincoln | 0.8% | Union | 1.2% |
| Dewey | 7.9% | Lyman | 7.9% | Walworth | 7.9% |
| Douglas | 0.8% | McCook | 0.8% | Yankton | 1.2% |
| Edmunds | 1.3% | McPherson | 1.3% | Ziebach | 7.9% |

Goals for female participation in each trade

Statewide 6.9%

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 nonfederally involved construction.

The Contractor's compliance with the Executive Order and 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; estimated starting and completion dates 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 shown by county designation on the Title Sheet of the plans.

**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 origins 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 Subcontinent, 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 60-4.5](#)) 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 7 a 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 employees 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's 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 therefor, 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 efforts 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 sources compiled 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 tests 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 work force.

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 timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, 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).

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION FOR
REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA 1273 (OCTOBER 23, 2023)**

OCTOBER 18, 2023

The following are amendments to the above contract provisions.

Section I.4.

Delete this section and replace with the following:

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a Federal-aid construction project unless it is labor performed by convicts who are on parole, supervised release, or probation.

Section IV.

Delete the first three sentences of the first paragraph and replace with the following:

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway and to all portions of Transportation Alternatives Program (TAP) funded projects.

Section IV.3.b.(1)

Delete this section and replace with the following:

The Contractor and each related subcontractor must submit weekly, for each week in which any contract work is performed, an electronic certified weekly payroll report. The Contractor is responsible for the submission of certified payroll reports by all subcontractors. The payroll report must be submitted electronically to the Elation System website. The Contractor must submit a legally valid electronic signature. The Elation System website can be accessed by logging onto the State of South Dakota's single sign-on website at <https://mysd.sd.gov/> or can also be accessed at <https://elationsys.com/>. First time users will need to use the Promotion Code SDDOT-19. The payroll report must be submitted within fourteen (14) calendar days after the end of the workweek.

Section IV.3.b.(2)

Delete the third sentence.

Section IV.3.b.(3)

Delete the first paragraph and replace with the following:

Each certified weekly payroll report must include the most recent South Dakota Department of Transportation (SDDOT) Statement of Compliance Form, signed by the Contractor or related subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract. The Instructions for the SDDOT Statement of Compliance Form are found at <https://dot.sd.gov/doing-business/contractors/labor-compliance/certified-payrolls-let-after-6/5/19>. The SDDOT will not accept any payroll report which does not include the most recent SDDOT Statement of Compliance Form. The SDDOT Statement of Compliance Form must certify the following:

Section IV.3.b.(4)

Delete this paragraph and replace with the following:

The weekly submission of a properly executed SDDOT Statement of Compliance Form shall satisfy the requirement for submission of the "Statement of Compliance Form" required by paragraph 3.b.(3) of this section.

Section IV.4.a.(1)

Delete the first sentence and replace with the following:

Apprentices will be permitted to work at less than the predetermined rate for the work they perform, but not less than the Common Laborer wage rate contained in the bid documents, 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 (OA), or with a State Apprenticeship Agency recognized by the OA.

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**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

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

(ii) The classification is used in the area by the construction industry; and

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

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to DBAconformance@dol.gov. 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.

(4) 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 will, by email to DBAconformance@dol.gov, 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

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

(4) *Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access (1) Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

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 as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, 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 (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction 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 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons 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. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* 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 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) 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, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION REGARDING
MINIMUM WAGE ON FEDERAL-AID PROJECTS**

OCTOBER 24, 2019

This proposal contains a copy of the most recent United States Department of Labor (USDOL) Davis-Bacon Act Wage Decision.

The Contractor and each related subcontractor will pay their respective employees not less than the USDOL minimum wage for each work classification an employee actually performs at the site of the work.

The Contractor and each related subcontractor must submit weekly, for each week in which any contract work is performed, an electronic certified weekly payroll report. The payroll report must be submitted electronically to the Elation System website. The Elation System website can be accessed by logging onto the State of South Dakota's single sign-on website at <https://mysd.sd.gov/> or can also be accessed at <https://elationsys.com/>. First time users will need to use the Promotion Code SDDOT-19. The payroll report must be submitted within fourteen (14) calendar days after the end of the workweek. The payroll reports submitted shall set out accurately and completely all the information required to be maintained under 29 C.F.R. 5.5(a)(3)(i). Weekly transmittals must include an individually identifying number for each employee, such as the last four digits of the employee's social security number, but these weekly transmittals must not include full social security numbers or home addresses. The Contractor is responsible for the submission of certified payroll reports by all subcontractors.

Each certified weekly payroll report must include the most recent South Dakota Department of Transportation (SDDOT) Statement of Compliance Form, signed by the Contractor or related subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract. The Instructions for the SDDOT Statement of Compliance Form are found at <https://dot.sd.gov/doing-business/contractors/labor-compliance/certified-payrolls-let-after-6/5/19>. The SDDOT will not accept any payroll report which does not include the most recent SDDOT Statement of Compliance Form.

* * * * *

**Wage and Hour Division
U.S. Department of Labor (DOL)
200 Constitution Avenue, N.W.
Washington, DC 20210**

Davis-Bacon Act Wage Decisions
State: South Dakota
Construction Types: Heavy and Highway
Counties: South Dakota Statewide

Agency: U.S. DOL
Wage Decision Number: **SD20230032 SD1**
Counties: SD Statewide
Wage Decision Date: **03/10/2023 (Mod-0)**

*SUSD2023-001 01-11-2023

LABORERS

GROUP GL1

Air Tool Operator; Common Laborer; Landscape Worker; Flagger; Pilot Car Driver;
Trucks under 26,000 GVW; Blue-top Checker; Materials Checker

GROUP GL2

Mechanic Tender (Helper); Pipe Layer (except culvert); Form Builder Tender;
Special Surface Finish Applicator; Striping

GROUP GL3

Asphalt Plant Tender; Pile Driver Leadsman; Form Setter; Oiler/Greaser

GROUP GL5

Carpenter; Form Builder

GROUP GL6

Concrete Finisher; Painter; Grade Checker

POWER EQUIPMENT OPERATORS

GROUP G01

Concrete Paving Cure Machine; Concrete Paving Joint Sealer; Conveyor; Tractor (farm type with
attachments); Self Propelled Broom; Concrete Routing Machine; Paver Feeder; Pugmill; Skid Steer

GROUP G02

Bull Dozer 80 HP or less; Front End Loader 1.25 CY or less; Self Propelled Roller (except Hot Mix);
Sheepsfoot/50Ton Pneumatic Roller; Pneumatic Tired Tractor or Crawler (includes Water Wagon and
Power Spray units); Wagon Drill; Air Trac; Truck Type Auger; Concrete Paving Saw

GROUP G03

Asphalt Distributor; Bull Dozer over 80 HP; Concrete Paving Finishing Machine; Backhoes/ Excavators
20 tons or less; Crusher (may include internal screening plant); Front End Loader over 1.25 CY;
Rough Motor Grader; Self Propelled Hot Mix Roller; Push Tractor; Euclid or Dumpster; Material Spreader;
Rumble Strip Machine

GROUP G04

Asphalt Paving Machine Screed; Asphalt Paving Machine; Cranes/Derricks/Draglines/Pile Drivers/Shovels
30 to 50 tons; Backhoes/Excavators 21 to 40 tons; Maintenance Mechanic; Scrapers; Concrete Pump Truck

GROUP G05

Asphalt Plant; Concrete Batch Plant; Backhoes/Excavators over 40 Tons; Cranes/ Derricks/Draglines/Pile
Drivers/Shovels over 50 tons; Heavy Duty Mechanic; Finish Motor Grader; Automatic Fine Grader;
Milling Machine; Bridge Welder

TRUCK DRIVERS

GROUP GT1

Tandem Truck without trailer or pup; Single Axle Truck over 26,000 GVW with Trailer

GROUP GT2

Semi-Tractor and Trailer; Tandem Truck with Pup

ELECTRICIANS

GROUP E01

Electrician

| <u>Rates</u> | <u>Fringes</u> |
|--------------|----------------|
| 22.38 | 0.00 |
| 23.16 | 0.00 |
| 24.41 | 0.00 |
| 31.94 | 0.00 |
| 26.45 | 0.00 |
| 24.57 | 0.00 |
| 24.68 | 0.00 |
| 26.07 | 0.00 |
| 27.18 | 0.00 |
| 30.01 | 0.00 |
| 24.52 | 0.00 |
| 25.88 | 4.28 |
| 29.78 | 5.04 |

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

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award, pursuant to 29 CFR 5.5(a)(1)(ii); contractors are responsible for requesting SDDOT to secure necessary additional work classifications and rates.

*Classifications listed under an "SU" identifier were derived from survey data and the published rate is the weighted average rate of all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates.

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

A COPY OF THIS DOCUMENT, COLORED TAN, MUST BE CONSPICUOUSLY POSTED AT THE PROJECT SITE

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

Davis-Bacon Act Wage Decisions
State: South Dakota
Construction Types: Heavy and Highway
Counties: South Dakota Statewide

In the listing above, the "SU" identifier indicates the rates were derived from survey data. As these weighted average rates include all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of the survey on which these classifications and rates are based. The next number, 007 in this example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates.

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

For SDDOT Defined Work Classifications, please visit: https://dot.sd.gov/doing-business/contractors/labor-compliance

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

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

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

END OF GENERAL DECISION

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
SUPPLEMENTAL SPECIFICATIONS TO
2015 STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES**

SEPTEMBER 7, 2022

The Supplemental Specifications dated September 7, 2022 are in effect for and made a part of this contract.

The Supplemental Specifications may be obtained from the Department website or the local Area Office or by contacting the Operations Support Office.

Department Website:

<https://dot.sd.gov/doing-business/contractors/standard-specifications/2015-standard-specifications>

Operations Support:

605-773-3571

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
PRICE SCHEDULE FOR MISCELLANEOUS ITEMS**

DECEMBER 6, 2023

The following unit bid prices have been established by the South Dakota Department of Transportation Commission.

These prices will be pre-entered in the bidding package for each project or will establish a standard price to be used whenever no project contract unit price exists for that item.

Each unit price listed is considered full compensation for the cost of labor, material, and equipment to provide the item of work and/or material, complete in place, including (but not limited to) royalty, waste of unsuitable materials, equipment rental, overhead, profit, and incidentals.

Items specified in this document may be paid for on progressive estimates without the benefit of a prior approved Construction Change Order.

| Specification Section Number | Specification Section Name | Item Name | Price per Item |
|-------------------------------------|----------------------------------------|-------------------------------------|-----------------------------------------------------------------------|
| 5.8 | Construction Stakes, Lines, and Grades | Engineer Directed Surveying/Staking | \$175.00/hour |
| 7.7 | Public Convenience and Safety | Water for Dust Control | \$35.00/M.Gal |
| 7.7 | Public Convenience and Safety | Dust Control Chlorides | \$0.70/lb |
| 9.3 | Payment for extra haul of Materials | Extra Haul | \$0.25/ton mile (Truck) or \$0.10/ cubic yard station (Scraper) |
| 120.5 A.5. | Roadway and Drainage Exc. & Emb. | Unclassified Excavation, Digouts | \$15.00/cu.yd. |
| 120.5 H. | Roadway and Drainage Exc. & Emb. | Extra Haul | \$0.25/ton mile (Truck) or \$0.10/cubic yard station (Scraper) |
| 120.5 I. | Roadway and Drainage Exc. & Emb. | Water for Embankment | \$35.00/M.Gal |
| 421.5 | Undercutting Pipe & Plate Pipe | Undercutting Culverts | \$20.00/cu.yd. |

| | | | |
|----------|--------------------------------------|-------------------------------------------------|----------------------------------------------------------------|
| 510.5 D. | Timber, Prestressed, and Steel Piles | Timber Pile Splice | \$850.00/each |
| | | Steel Pile Splices (*All Weights) | Splice made before either of the pieces has been driven. |
| | | 8 HP* | \$200.00/each |
| | | 10 HP* | \$250.00/each |
| | | 12 HP* | \$275.00/each |
| | | 14 HP* | \$300.00/each |
| | | Steel Pile Splices (*All Weights) | Splice made after one of the pieces has been driven. |
| | | 8 HP* | \$400.00/each |
| | | 10 HP* | \$525.00/each |
| | | 12 HP* | \$650.00/each |
| | | 14 HP* | \$750.00/each |
| 510.5 E. | Timber, Prestressed, and Steel Piles | Pile Shoes (Timber Pile) | \$190.00/each |
| 510.5 H. | Timber, Prestressed, and Steel Piles | Pile Tip Reinforcement (Steel Pile) | |
| | | 10" HP Tip Reinforced | \$200.00/each |
| | | 12" HP Tip Reinforced | \$225.00/each |
| | | 14" HP Tip Reinforced | \$275.00/each |
| 601.5 | Haul Roads | Granular Material | \$28.00/ton |
| 601.5 | Haul Roads | Asphalt Concrete (including asphalt) | \$160.00/ton |
| 601.5 | Haul Roads | Cover Aggregate | \$55.00/ton |
| 601.5 | Haul Roads | Asphalt for Prime | \$1200.00/ton |
| 601.5 | Haul Roads | Asphalt (Tack, Flush & Surface Treatment) | \$800.00/ton |
| 601.5 | Haul Roads | Water | \$35.00/M.Gal |
| 601.5 | Haul Roads | Dust Control Chlorides | \$0.70/lb |
| 634.5 | Temporary Traffic Control | Flagging | \$36.03/hour |
| 634.5 | Temporary Traffic Control | Pilot Car | \$52.75/hour |

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
REGARDING
STORM WATER DISCHARGES
TO WATERS OF THE STATE**

MAY 8, 2018

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Article 74:52, the State of South Dakota has been issued Permit No. SDR10##### "GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES". This permit authorizes the discharge of storm water in accordance with the conditions and requirements set forth in the permit.

The Contractor, by signing the CONTRACTOR AUTHORIZATION FORM and submitting a bid or proposal, certifies the following:

"I certify under penalty of law that I understand and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the project identified above."

A copy of the full version of the General Permit for Storm Water Discharges Associated with Construction Activities, dated 04/01/2018, must be posted on the job site. The General Permit for Storm Water Discharges Associated with Construction Activities is available for downloading and printing from the SD DENR website:

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/StormWaterConstruction.aspx>

The Contractor may also obtain a printed copy of the permit from the SDDOT Project Development office or from the SDDOT Area Office assigned to this project.

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