

**CONTRACT DOCUMENTS &  
CONTRACT SPECIFICATIONS  
FOR  
COLONIA CENTRAL ESTATES AND  
PRAXEDIS SALDIVAR SEWER  
IMPROVEMENTS PROJECT**

**CITY OF BROWNSVILLE  
CAMERON COUNTY, TEXAS**

PREPARED FOR:

**BROWNSVILLE PUBLIC UTILITIES BOARD**

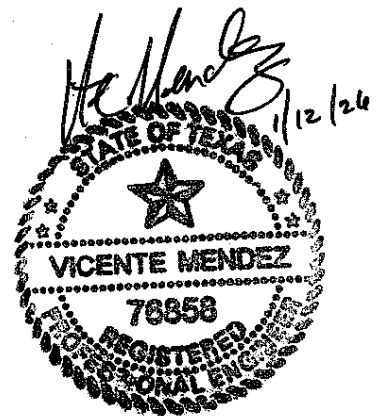
PREPARED BY:



**A M B I O T E C  
G R O U P**

TBPE FIRM No. F-4126  
TBPLS REG No. 10005300

5420 PAREDES LINE ROAD  
BROWNSVILLE, TEXAS 78526  
PHONE (956) 548-9333  
FAX (956) 548-9399  
ACE # 3188



January 2026



**CAMERON COUNTY  
PURCHASING DEPARTMENT  
INVITATION TO BID**

**BID NUMBER: 260103**

**BID TITLE: CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT No. CFC24-0004**

**DATE DUE: FEBRUARY 11<sup>TH</sup>, 2026** **DUE NO LATER THAN 3:00 P.M.**

Bids will be opened at the Cameron County Courthouse, 1100 East Monroe Street, Brownsville, Texas in the Purchasing Department Basement Floor – Room # B17 at 3:00 p.m. (as per Purchasing Dept. time clock) on deadline due date. All Bidders are welcome to attend Bid opening. Bids received later than the date and time above will not be considered.

Please return bid **ORIGINAL (marked "ORIGINAL")** and an electronic (**PDF format file only**) copy of your BID submittal in sealed envelope. Be sure that returned envelope shows the Bid Number, Description and is marked "SEALED BID".

RETURN BID TO:

by U.S. mailed or delivered to the office of the Purchasing Dept., **County Courthouse (Dancy Bldg.)  
1100 E. Monroe St, Basement Floor, Room B17, Brownsville, Texas 78520.**

**PRE-BID MEETINGS SCHEDULE: (Non-Virtual meeting)**

**PRE-BID MEETING DATE & TIME: Wednesday, January 28<sup>th</sup>, 2026, at 3:00p.m. C.S.T.  
PRE-BID MEETING LOCATION: 1100 E. Monroe, Dancy Building, Basement Floor, Room B-03  
Brownsville, Texas 78520**

**Deadline for all bidders to submit their BABA Manufacture's Certification to County on Wednesday, January 28<sup>th</sup>, 2026 during pre-bid meeting.**

**Questions/clarifications must be submitted by: Friday, January 30<sup>th</sup>, 2026, before 5:00 p.m. C.S.T.**  
(e-mail to [purchasing@co.cameron.tx.us](mailto:purchasing@co.cameron.tx.us) or by fax to 956-550-7219, attention to Roberto C. Luna, Purchasing Agent)  
**Addendum to answer all questions/clarifications will be posted on February 4<sup>th</sup>, 2026**

For additional information or to request addendum email: [Roberto C. Luna](mailto:Roberto C. Luna) at [purchasing@co.cameron.tx.us](mailto:purchasing@co.cameron.tx.us)

**YOU MUST SIGN BELOW IN INK; FAILURE TO SIGN WILL DISQUALIFY THE OFFER.**  
**All prices must be typewritten or written in ink.**

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Historically Underutilized Business (State of Texas) Certification VID Number: \_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ e-mail \_\_\_\_\_

**SIGNATURE:** \_\_\_\_\_ Print Name: \_\_\_\_\_

How did you find out about this Bid? \_\_\_\_\_ (ex: Newspaper, Web, Mail)

**Is Bidder's principal place of Business within Cameron County?**  Yes  No

**If yes what City:** \_\_\_\_\_

(Your signature attests to your offer to provide the goods and/or services in this bid according to the published provision of this bid. When an award letter is issued, this Bid becomes the contract. If a Bid required specific Contract is to be utilized in addition to this Bid, this signed Bid will become part of that contract. When an additional Contract is required a Bid award does not constitute a contract award and Bid / Contract is not valid until contract is awarded by Commissioners Court (when applicable) signed by County Judge) and Purchase Order is issued.

**Bidders/Participants must sign each bid/proposal page to ensure you have read each page's information, terms, conditions and/or required forms. Failure to sign or initial each bid/proposal page will disqualify the BID/PROPOSAL offer.**

# ACKNOWLEDGMENT OF RECEIPT

## CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO CFC24-0004 BID # 260103

### Please submit this page upon receipt

For any clarifications, please contact Mr. Roberto C. Luna, Purchasing Agent and/or Dalia Loera, Assistant Purchasing Agent at the Cameron County Purchasing Department office at: (956) 544-0871 or e-mail at: [purchasing@co.cameron.tx.us](mailto:purchasing@co.cameron.tx.us)

Please fax or e-mail this page upon receipt of RFP package no later than **Friday, February 6<sup>th</sup>, 2026 before 3:00 p.m. CST**. All questions regarding this RFP should also be submitted no later than the stated date and time on RFP cover page.

Fax : (956) 550-7219 or E-mail: [purchasing@co.cameron.tx.us](mailto:purchasing@co.cameron.tx.us)

If you are unable to respond on this RFP solicitation, kindly indicate your reason for **“Not Responding/No-Participation”** below (*Please check one or more reasons below*) and fax or e-mail back to Cameron County Purchasing Department. This will ensure you remain active on our vendor list.

Date: \_\_\_\_\_

Yes, I will be able to submit a Proposal.

No, I will not be able to submit a Proposal for the following reason: (*Please check one or more reasons below*)

- Could not meet specifications.
- Items or materials requested not manufactured by us or not available to our company.
- Insurance requirements are too restricting.
- Bond requirements are too restricting.
- The scope of services is not clearly understood or applicable (too vague, too rigid, etc.)
- The project is/was not suited to our organization.
- Quantities are too small.
- Insufficient time allowed for preparation of bid/proposal.
- Other (please specify).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Company Name: \_\_\_\_\_

Company Representative Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

Phone #: \_\_\_\_\_ Fax #” \_\_\_\_\_

E-mail Address: \_\_\_\_\_

# CHECK LIST

Bidders are asked to review the package to be sure that all applicable parts are included. If any portion of the package is missing, notify the Purchasing Department immediately. It is the Bidder's responsibility to be familiar with all the Requirements and Specifications. Be sure you understand the following before you return your bid packet.

- Cover Sheet**  
Your company name, address and your signature (**IN INK**) should appear on this page.
- Instructions to Bidders**  
You should be familiar with all of the Instructions to Bidders.
- Special Requirements**  
This section provides information you must know in order to make an offer properly.
- Specifications / Scope of Work**  
This section contains the detailed description of the product/service sought by the County.

## Attachments

- Addendum Acknowledgment Form**
- Attachments A, B, C, D, E, F, G, H, I, J, & K**  
Be sure to complete these forms and return them with packet.
- Bid Guaranty & Performance Bond Information & Requirements**  
This form applies only to certain bids/proposals. All public work contracts over \$25,000 require a Payment Bond and over \$100,00 must also have a Performance Bond in a form approved by the County. Please read carefully and fill our completely.
- Minimum Insurance Requirements**  
Included when applicable
- Worker's Compensation Insurance Coverage Rule 110.110**  
This requirement is applicable for a building or construction contract.
- Financial Statement**  
When this information is required, you must use this form.
- BABA Policy Issuance**
- BABA Manufacture's Certification**  
Be sure to complete these forms and return them with packet.
- BABA Contractor Certification**  
Be sure to complete these forms and return them with packet.
- BABA Checklist and Instruction Definitions.**  
Be sure to complete these forms and return them with packet.

## Other - Final Reminders To double check before submitting BID

- Is your bid sealed with bid #, title, Bidder's Name, & return address, on outside?
- Did you complete, sign and submit page 1?
- Did you provide the number of copies as required on the cover page?
- Did you visit our website for any addendums?

<https://www.cameroncounty.us/purchasing-bids-rfpq-addms-tabs/>

If not interested in Bidding please let us know why e-mail to: [Purchasing@co.cameron.tx.us](mailto:Purchasing@co.cameron.tx.us)

**INSTRUCTIONS FOR SUBMITTING BIDS**  
**CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE**  
**IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO CFC24-0004**  
**BID # 260103**

These General Instructions apply to all offers made to Cameron County, Texas (herein after referred to as "County") by all prospective vendors (herein after referred to as "Bidder") on behalf of Solicitations including, but not limited to, Invitations to Bid.

Carefully read all instructions, requirements and specifications. Fill out all forms properly and completely. Submit your bid with all appropriate supplements and/or samples. Prior to returning your sealed bid response / submittal, all Addendums – if issued – should be reviewed and downloaded by entering the County Purchasing web at: <https://www.cameroncounty.us/purchasing-bids-rfpq-addms-tabs/>

Addendums Column (updated Addendums). These Addendums must be signed and returned with your bid in order to avoid disqualification. All Tabulations can also be viewed and downloaded at this site. Annual Bid award information can be accessed at:

<https://www.cameroncounty.us/purchasing-bids-rfpq-addms-tabs/>

Review this document in its entirety. Be sure your Bid is complete, and double check your Bid for accuracy.

Cameron County is an Equal Employment Opportunity Employer.

**GOVERNING FORMS:** In the event of any conflict between the terms and provisions of these requirements and the specifications, the specifications shall govern. In the event of any conflict of interpretation of any part of this overall document, Cameron County's interpretation shall govern. Where substitutions are used, they must be of equivalent value or service, and specified by the bidder as such, in the columns to the right on the "Minimum Specifications' Forms". The County's specifications may be exceeded and should be noted by the Vendor as such. Any bid NOT MEETING the Minimum Requirements specified will be rejected.

**GOVERNING LAW:** This invitation to bid is governed by the competitive bidding requirements of the County Purchasing Act, Texas Local Government Code, §262.021 et seq., as amended. Bidders shall comply with all applicable federal, state and local laws and regulations. Bidders are further advised that these requirements shall be fully governed by the laws of the State of Texas and that Cameron County may request and rely on advice, decisions and opinions of the Attorney General of Texas and the County Attorney concerning any portion of these requirements.

Questions requiring only clarification of instructions or specifications will be handled verbally. If any questions result in a change or addition to this Bid, the Change(s) and addition(s) will be forwarded to all vendors involved (as quickly as possible) in the form of a written addendum only. Verbal changes to Bids must be backed-up by written addendum or written Q/A clarifications which would be posted on County Purchasing Web site. Without written Addendum or written Q / A clarification, verbal changes to Bids will not apply.

**Sign the Vendor's Affidavit Notice, complete answers to Attachments A, B, C, D, E, F, G, H, I, J, K, L & M and return all with your Bid.**

BIDDER SHALL SUBMIT BID ON THE FORM PROVIDED, SIGN THE VENDOR AFFIDAVIT, AND RETURN ENTIRE BID PACKET. In the event of inclement weather and County Offices are officially closed on a bid deadline day, bids will be received unit 2:00 p.m. of the next business day, for opening at upcoming Commissioner's Court meeting.

***The County of Cameron, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.***

**MINORITY/WOMAN OWNED BUSINESS ENTERPRISE (M/WBE), DISADVANTAGED BUSINESS ENTERPRISE (DBE), AND HISTORICALLY UNDERUTILIZED BUSINESS (HUB):**

Cameron County encourages and strives towards an ever-increasing expansion in opportunities for M/WBE's & HUB's in assisting the County for its Purchasing needs. Cameron County's policy is to increasingly involve qualified M/WBE & HUBs to the greatest extent feasible in the County's procurement process.

Objectives of County HUB Program

- Ongoing increase in procurement opportunities for M/WBE's & HUB's
- Assisting M/WBE's & HUB's with registration to Bidders List and Bid opportunities that may be of interest
- Directing M/WBE's & HUB's to various beneficial web links giving them additional opportunities

Certification Process: Federal, state, and local regulations determine the type of certification(s) available. Attached below are links to various Certification agencies which are available to assist you in obtaining your M/WBE's & HUB's Certification.

HUB Certification Sources:

- [State of Texas HUB Certification Process](#)

[Historically Underutilized Business \(HUB\) Program \(texas.gov\)](#)    [Texas Statewide HUB System | Texas Comptroller of Public Accounts \(gob2g.com\)](#)

- Register with State as a HUB Vendor
- HUB Certification Agreements
- HUB Minority & Women Organizations

M/WBE's & HUB's Questions Cameron County contact:  
 Dalia Loera, Assistant Purchasing Agent  
 P: 956-544-0846 | Email: [dalia.loera@co.cameron.tx.us](mailto:dalia.loera@co.cameron.tx.us)

The County, its contractors, their suppliers and subcontractors, and vendors of goods, equipment services, and professional services shall not discriminate on the basis of race, color, religion, national origin, handicap, or sex in the award and/or performance of contracts. All vendors, suppliers, professionals, and contractors doing business or anticipating doing business with Cameron County shall support, encourage, and implement affirmative steps toward our common goal of establishing equal opportunity for all citizens of Cameron County.

REQUIREMENT OF ALL BIDDERS/PROPOSERS: Each firm responding to this solicitation shall be required to submit with their proposal information regarding minority/women business and HUB business participation in this project.

**CONFLICT OF INTEREST QUESTIONNAIRE:**

**For vendor or other person doing business with local governmental entity**

This questionnaire must be filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

**By law this questionnaire must be filed with the records administrator (County Clerk's Office) of the local government not later than the 7<sup>th</sup> business day after the date the person becomes aware of facts that require the statement to be filed.** See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7<sup>th</sup> business day after the date the originally filed questionnaire becomes incomplete or inaccurate.

Please review this entire document, if for any reason there is any information to disclose, relative to any questions in this Conflict of Interest form, you must file with County Clerk's Office subject to above instructions.

**Can be downloaded at the following web site:**

[https://www.cameroncounty.us/wp-content/uploads/Purchasing/docs/Conflict\\_of\\_Interest\\_Questionnaire\\_New\\_2015\\_.pdf](https://www.cameroncounty.us/wp-content/uploads/Purchasing/docs/Conflict_of_Interest_Questionnaire_New_2015_.pdf)

**DISCLOSURE OF INTERESTS:**

This questionnaire must be filed with the records administrator (County Clerk's Office) of the local government and no later than the 7<sup>th</sup> business day after the person becomes aware of facts that require this statement to be filed. Cameron County, Texas requires all persons or firms seeking to do business with the County to **provide the following information if the person becomes aware of facts that require this statement to be filed.** Every question must be answered. If the question is not applicable, answer with "N/A."

Please review this entire document, if for any reason there is any information to disclose, relative to any questions in this disclosure of interest form, you must file with County Clerk's Office subject to above instructions.

**Can be downloaded at the following web site:**

<https://www.cameroncounty.us/wp-content/uploads/Purchasing/CIS.pdf>

**TEXAS ETHICS COMMISSION FORM 1295**

All Bids prior to award or award of Contract by Commissioner's Court will require that the Texas Ethics Commission (TEC) Form 1295 Electronic (online) Vendor filing procedure be completed by Vendor.

All Vendors being recommended to Commissioners Court for award or renewal of award on Agenda must register and obtain a TEC Certification for the specific award. This Certification Form 1295 must be electronically submitted and printed. Form must be emailed or delivered to County Purchasing Department making the request for form. This process must be completed prior to Commissioners Court Agenda for approval consideration of Bid award. There is no charge for this TEC online process.

Texas Ethics Commission (TEC) Form 1295 must be completed (by firm – on line "New Form 1295 Certificate of Interested Parties Electronic Filing Application" Site at: [https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm) )

If any Vendors have questions as to TEC Form 1295 visit the County Purchasing Web site left column tab "Vendor – TEC Form 1295" for more information. TEC Web site links can be found at this location including Question / Answers and Video instructions.

Tab Link: <https://www.cameroncounty.us/vendors-tec-form-1295/>

BIDDER SHALL SUBMIT BID ON THE FORM PROVIDED, SIGN THE VENDOR AFFIDAVIT, AND RETURN ENTIRE BID PACKET. In the event of inclement weather and County Offices are officially closed on a bid deadline day, bids will be received unit 3:00 p.m. of the next business day. Bids will be opened at the Cameron County Courthouse, 1100 East Monroe Street, Brownsville, Texas in the Purchasing Department – Basement Floor – Room # B17 (as per Purchasing Dept. time clock).

BIDS SUBMITTED AFTER THE SUBMISSION DEADLINE SHALL BE RETURNED UNOPENED AND WILL BE CONSIDERED VOID AND UNACCEPTABLE.

BIDDERS MAY ATTEND PUBLICLY HELD COMM COURT MEETING FOR AWARD OF THIS SOLICITATION. All responding bidders are welcome to attend the publicly held Commissioners Court meeting relative to the outcome / award of this solicitation. Court Meeting agenda date and times may be obtained at the following web site: <https://www.cameroncountytexas.gov/commissioners-court-agendas/>

SUCCESSFUL VENDOR WILL BE NOTIFIED BY MAIL. All responding vendors will receive written notification regarding the outcome of the award.

OPEN RECORDS ACCESS TO ALL INFORMATION SUBMITTED. All information included will be open to the public, other bidders, media as per the Open Records Act and not be confidential in nature. If you deem any information as confidential, it should not be made part of your bid package.

PLEASE NOTE CAREFULLY

THIS IS THE ONLY APPROVED INSTRUCTION FOR USE ON YOUR BID. ITEMS BELOW APPLY TO AND BECOME A PART OF TERMS AND CONDITIONS OF BID. ANY EXCEPTIONS THERETO MUST BE IN WRITING.

1. **ORIGINAL (marked "ORIGINAL")** and an electronic copy on a flash drive (searchable PDF format file only) copy of your BID submittal in sealed envelope **MUST BE SUBMITTED.** Bid shall be placed in an envelope completely and properly identified with the name and number of the bid. Bids must be in the Purchasing Department **BEFORE** the hour and date specified.
2. Bids **MUST** give full firm name and address of the bidder. Failure to manually sign bid will disqualify it. Person signing bid should show TITLE or AUTHORITY TO BIND THE FIRM IN A CONTRACT.
3. Bids **CANNOT** be altered or amended after deadline time. Any alterations made before deadline time must be initiated by bidder or his authorized agent. No bid can be withdrawn after opening time without approval by the Commissioners Court based on a written acceptable reason.
4. The County is exempt from State Sales Tax and Federal Excise Tax. **DO NOT INCLUDE TAX IN BID.** Cameron County claims exemption from all sales and/or use taxes under Texas Tax Code §151.309, as amended. Texas Limited Sales Tax Exemption Certificates will be furnished upon written request to the Cameron County Purchasing Agent.
5. Any Catalog, brand name or manufacturer's reference used in a bid invitation is descriptive-NOT restrictive-it is to indicate type and quality desired. Bids on brand of like nature and quality will be considered. If bid is based on other than reference specifications, Bid must show manufacturer, brand or trade name, lot number, etc., of article offered. If other than brand(s) specified is offered, illustrations and complete descriptions should be made part of the bid. If bidder takes no exception to specifications or reference data, he will be required to furnish brand names, numbers, etc. as specified.
6. Samples, when requested, must be furnished free of expense to the County. If not destroyed in examination, they will be returned to the bidder on request, at his expense. Each sample should be marked with bidder's name, address, and County bid number. **DO NOT ENCLOSE OR ATTACH SAMPLE TO BID.** County user Dept.(s) reserves the right to make the final determination as to equivalents.
7. Written and verbal inquires pertaining to bids must give Bid Number and Company.
8. **NO** substitutions or cancellations permitted without written approval of Purchasing Agent.
9. The County reserves the right to accept or reject all or any part of any bid, waiver minor technicalities. The County of Cameron reserves the right to award by item category or by total bid. Prices should be itemized. County also reserves the right to award either with or without trade-in, if applicable. Cameron County reserves the right to award if only one (1) Bid was received. Cameron County retains the option to re-bid at any time if in its best interest and is not automatically bound to renewal or re-bid. The County reserves the right to hold all Bids for 60 days from the due date of receipt without actions.
10. Bid unit price on quantity specified – extend and show total. In case or errors in extension, UNIT prices shall govern. If both alphabetic and numeric (unit prices) are required and a discrepancy is found between both on the same line item whichever unit price confirms the line total will govern. If neither confirms then the alphabetic price will govern. If there is no line total requested then the alphabetic unit price shall govern. If combined / sum of line totals do not match the Bid total then the Bid total will be corrected to reflect the sum of the line totals. If there is a discrepancy between the alphabetic and numeric Base Bid Total / Total Bid amount, the alphabetic Base Bid Total / Total Bid will take precedence. Bids subject to unlimited price increase will not be considered, but limited to Preventive Maintenance Annual Local Labor Union Wage Rate adjustments. **ALL PRICING WILL REMAIN FIRM UNLESS THIS BID ALLOWS FOR OPEN MARET PRICE INCREASES (AS SO SPECIFIED WITHIN).** When inserting number of days or percentage % in Bid (ex: number of days to deliver or install or complete work, etc. or percentage over vendor's cost or percentage discount off list price) avoid using a range (ex: 30-90 days or 15% to 20 % cost plus) but use only one

number for number of days or percentage. If a range is used the County will consider the higher number or worst-case scenario from the County's standpoint in making bid comparisons / tabulations.

11. This is a bid inquiry only and implies no obligation on the part of Cameron County.
12. Acceptance of and final payment for the item will be contingent upon satisfactory performance of the product received by Cameron County.
13. Partial bids will not be accepted unless awarded by complete category or line item. **To be awarded by Total Bid**
14. **BASIS OF BID AWARD** – The contract will be awarded to the responsible and responsive bidders meeting the specifications and having the lowest possible total extended price of the Base Bid (unit cost), consistent with the quality needed for effective use. All prices quoted will be firm. Award to successful bidder will be made by Cameron County Commission action. Bid pricing shall be firm for the entire term of the awarded contract. Prices established in continuing agreements and annual term contracts may be negotiated and approved by Cameron County Commission Court due to inflation and increased operating costs (i.e. dramatic increase in petroleum-based products, minimum wage, etc.). Any price increase proposed must be submitted thirty (30) calendar days prior to the anniversary date of the annual term contract and shall be supported with proper documentation, as provided by the U.S. Department of Labor Consumer Price Index (CPI), <http://www.bls.gov/cpi/>. Cameron County will reserve the right to approve or disapprove any request for increased prices.

Cameron County may at its option and expense have the material tested at any time for compliance. The Contractor's payment shall be deducted the full amount of expense to the County for any tests which **fail** to show compliance with the specifications.

Supplied materials which tests show to not-be-in-compliance shall be removed from County's property, stockpile or roadbed at the contractor's expense. Additionally, no payment will be made to the supplier by the County, for the materials which do not meet the specifications. The quantity of such material shall be determined by County's administrative staff, whose decision shall be final.

Revisions on unit prices: it is agreed that bid prices may be superseded during the contract period only if such revisions are the result of increased in the Gulf coast area. A written notice stipulating in detail the price revision must be furnished to the County before revised prices go into effect. Also, such revisions must be supported by continuing written notices for each 30-day period such revisions are in effect. Discounts, delivery, and services accepted as part of this bid are not subject to revision.

15. It is expected that the bidder will meet all state and federal safety standards and laws in effect on the date of the bid for the item(s) being specified, and the particular use for which they are meant.

It is the responsibility of the bidder or proposer to ask any and all questions the bidder or proposer feels to be pertinent to the bid or proposal. Cameron County shall not be required to attempt to anticipate such questions for bidders or proposers. Cameron County will endeavor to respond promptly to all questions asked.

16. If a Bid Bond is required in this Bid it must be included in Bidders Sealed Bid package and be current / valid through award.
17. Alternate Bid pricing: Bidders should include all alternate pricing on your Bid price page. Cameron County will not award Bid to a Bidder if an alternate price is left blank and County will be making an award to include alternate(s) which has been left blank. In order to avoid not being considered for award include all alternate pricing on your Bid price page.
18. All property of Cameron County must remain (at all times) within the United States – without exception – unless prior Agenda approval has been given by Commissioners Court.
19. Availability of Funds: This procurement is subject to the availability of funding. Cameron County's obligation hereunder is contingent upon the availability of appropriated funds from which payment for the Contract purposes can be made. No legal liability on the part of the County for any payment shall arise until funds are made available to the County for this Contract and until the Contractor receives notice of such availability, to be confirmed in writing by the County. Any award of Contract hereunder will be conditioned upon said availability of funds for the Contract.
20. Non-Appropriation Clause:

Notwithstanding any provisions for this agreement, the parties agree that the services are payable by Cameron County from appropriations, grants, and monies from the General Fund and other sources. In the event sufficient appropriation, grants, and monies are not made available to Cameron County to pay these services for any fiscal year, this Agreement shall terminate without further obligation of County. In such event, the Cameron County Administrator shall certify to contractor that sufficient funds have not been made available to County to meet the obligations of this Agreement; such certification shall be conclusive upon parties.

**PURCHASE ORDER AND DELIVERY:** The successful Bidder shall not deliver products or provide services without a Cameron County Purchase Order, signed by an authorized agent of the Cameron County Purchasing Department. The fastest, most reasonable delivery time shall be indicated by the Bidder in the proper place on the Pricing/Delivery Information form. Any special information concerning delivery

should also be included, on a separate sheet, if necessary. All items shall be shipped **F.O.B. INSIDE DELIVERY** unless otherwise stated in the specifications.

This shall be understood to include bringing merchandise to the appropriate room or place designated by the using department. Every tender or delivery of goods must fully comply with all provisions of these requirements and the specifications including time, delivery and quality. Nonconformance shall constitute a breach which must be rectified prior to expiration of the time for performance. Failure to rectify within the performance period will be considered cause to reject future deliveries and cancellation of the contract by Cameron County without prejudice to other remedies provided by law. **Where delivery times are critical, Cameron County reserves the right to award accordingly.**

**NO PLACEMENT OF DEFECTIVE TENDER:** Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender provided, where the time for performance has not yet expired, the Seller may seasonably notify Buyer of their intention to cure and may then make a conforming tender within the contract time but not afterward.

**PLACE OF DELIVERY:** The place of delivery shall be that set forth on the purchase order. Any change thereto shall be affected by modification as provided for in clause 20, "Modifications", hereof. The terms of this agreement are "no arrival, no sale".

**DELIVERY TERMS AND TRANSPORTATION CHARGES:** Bid must show number of days required to place material in receiving agency's designated location under normal conditions. Failure to state delivery time obligates bidder to complete delivery in 14 calendar days. A five-day difference in delivery promise may break a tie. Unrealistically short or long delivery promises may cause bid to be disregarded. Consistent failure to meet delivery promises without valid reason may cause removal from bidder list.

An accurate delivery date must be quoted on the "Bid Form". When there are various items, a delivery date must be included with each item quoted. Freight and shipping charges to Cameron County must be included in the bid price. Final location will be supplied to the vendor on award of bid, F.O.B. destination. Delivery locations will be: Various County Building locations. Delivery days after receipt of order (ARO). Specify all (various) dates by categories or item if different.

If delay is foreseen, contractor shall give written notice to Director of Purchasing. The County has the right to extend delivery date if reasons appear valid. Contractor must keep County advised at all times of status of order. Default in promised delivery (without accepted reasons) or failure to meet specifications, authorized the County to purchase supplies elsewhere and charge full increase in cost and handling to defaulting contractor.

Delivery shall be made during normal working hours only, 8:00 a.m. to 5:00 p.m. unless otherwise noted in bid.

**VARIATION IN QUANTITY:** The County assumes no liability for commodities produced, processed or shipped in excess of the amount specified herein.

**SELLER TO PACKAGE GOODS:** Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently packed as follows: (a) Seller's name and address; (b) Consignee's name, address and purchase order or purchase release number and the supply agreement number if applicable; (c) Container number and total number of containers, e.g. box 1 of 4 boxes; and (d) the number of the container bearing the packing slip. Seller shall bear cost of packaging unless otherwise provided. Goods shall be suitably packed to secure lowest transportation costs and to conform with requirements of common carriers and any applicable specifications. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.

**SHIPMENT UNDER RESERVATION PROHIBITED:** Seller is not authorized to ship the goods under reservation, and no tender of a bill of lading will operate as a tender of goods.

**TITLE AND RISK OF LOSS:** The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery.

**INSPECTION:** Upon receiving item(s), they will be inspected for compliance with the Bid Specifications. If the item(s) do not pass inspection, the vendor will be required to pick up the rejected item(s) at the delivery point, provide the necessary replacement, and return the item(s) to the original point of delivery.

All items proposed shall be new, in first class condition, including containers suitable for shipment and storage (Cameron County prefers recycled packaging whenever possible), unless otherwise indicated in bid. Verbal agreements to the contrary will not be recognized. All materials and services shall be subject to Purchaser's approval. Unsatisfactory material will be returned at Seller's expense.

Cameron County reserves the right to inspect any item(s) or service location for compliance with specifications and requirements and needs of the using department. If a Bidder cannot furnish a sample of a bid item, where applicable, for review, or fails to satisfactorily show an ability to perform, the County can reject the bid as inadequate.

**TESTING:** Cameron County reserves the right to test equipment, supplies, material and goods bid for quality, compliance with specifications and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the bid is subject to rejection.

**SPECIAL TOOLS AND TEST EQUIPMENT:** If the price stated on the face hereof includes the cost of any special tooling or special test equipment fabricated or required by Seller for the purpose of filling this order, such special tooling equipment and any process sheets related thereto shall become the property of the Buyer and to the extent feasible shall be identified by the Seller as such.

**INVOICES AND PAYMENTS:** (a) The vendor shall submit separate invoices, in duplicate, on each purchase order after each delivery. Invoices shall indicate the purchase order number, shall be itemized and transportation charges, if any, shall be listed separately. A copy of the bill of lading and the freight weigh bill when applicable, should be attached to the invoice. Mail to: Cameron County, ATTN: Auditor's Office, 1100 East Monroe St., Brownsville, Texas 78520. Payment shall not be due until the above instruments are submitted after delivery or services rendered. Our Vendors must keep the Auditor advised of any changes in your remittance addresses. (b) County's only obligation to pay Vendor is to pay from funds budgeted and available for the purpose of the purchase. Lack of funds shall render this contract null and void to the extent funds are not available and any delivered but unpaid for goods will be returned to Vendor by the County. (c) Do not include Federal Excise, State or City Sales Tax. County shall furnish tax exemption certificate if required.

Any invoice, which cannot be verified by the contract price and/or is otherwise incorrect, will be returned to the Vendor for correction. Under term contracts, when multiple deliveries and/or services are required, the Vendor may invoice following each delivery and the County will pay on invoice. Contracts providing for a monthly charge will be billed and paid on a monthly basis only. Prior to any and all payments made for good and/or services provided under this contract, the Vendor should provide his Taxpayer Identification Number or social security number as applicable. This information must be on file with the Cameron County Auditor's office. Failure to provide this information may result in a delay in payment and/or back-up withholding as required by the Internal Revenue Services.

Vendor shall submit two (2) copies of an itemized invoice showing BID number and purchase order number to:

**CAMERON COUNTY AUDITOR  
ACCOUNTS PAYABLE  
1100 EAST MONROE ST.,  
BROWNSVILLE, TEXAS 78520**

Please note that any payment due under this bid award will be applied towards any debt, including but not limited to delinquent taxes that is owed to Cameron County.

**PAYMENT DISCOUNT:** Indicate the payment discount (s) available depending on the when invoices are paid. For example, 1/30 means a 1% discount if paid within 30 days, 2/15 means a 2% discount if paid within 15 days, etc.

Payment in full will be made within thirty (30) days of delivery, inspection, and receipt of invoice.

All costs quotations must include all the various features needed to satisfy the requirements. Note: No amounts will be paid for the items in this BID in excess of the amounts quoted.

### **Criminal Background Checks are Mandatory:**

Checks are mandatory for all personnel performing work on Cameron County sites. Contractors, consultants, and subcontractors are required to take all reasonable steps to assure that their employees do not represent a threat to the County or Facilities. Failure to comply with this requirement may result in immediate termination of any award or contract. The selected contractor shall provide a complete list of names (including supervisors) that may be working on campus. The contractor(s) shall remove from the Cameron County workplace any of its employees who are found to be unacceptable by Cameron County. Such requests shall not be unreasonable, are the sole decision of Cameron County, and are not subject to negotiation. Contractor shall provide proper identification for all contractor employees. While on Cameron County premises, all contractor employees must wear attire that identifies them as contractor's employee with identification visible from both the front and the back. Vehicles shall be clearly identified as company vehicles and be maintained in a neat clean and sanitary condition. At least one person in each vehicle, preferably the driver, must be able to speak, read and write. It shall be the contractor's responsibility to see that employees render quiet and courteous service.

### **Trade Secrets, Confidential Information and the Texas Public Information Act.**

If you consider any portion of your **Bid**/Proposal/Qualification Statement to be privileged or **confidential** by statute or judicial decision, including trade secrets and commercial or financial information, clearly identify those portions.

**Bid**/Proposal/Qualification Statement will be opened in a manner that avoids disclosure of the contents to competing offers and to keep the proposals secret during negotiations. All proposals are open for public inspection after the contract is awarded, but trade secrets and confidential information in the proposals are not open for inspection.

Cameron County will honor your negotiations of the trade secrets and confidential information and decline to release such information initially, but please note that the final determination of whether a particular portion of your proposal is in fact a trade secret or commercial or financial information that may be withheld from public inspection will be made by the Texas Attorney General or a court of competent jurisdiction. In the event a public information request is received for a portion of your proposal that you have marked as being confidential information, you will be notified of such request, and you will be required to justify your legal position in writing to the Texas Attorney General pursuant to Section §552.305 of the Government Code. In the event that it is determined by opinion or order of the Texas Attorney General or a court of competent jurisdiction that the information is in fact not privileged and confidential under Section §552.110 of the Government Code and Section §252.049 of the Local Government code, then such information will be made available to the requested.

**Bid**/Proposal/Qualification Statement are to be signed by an officer of the company authorized to bind the submitter to its provisions. **Bid**/Proposal/Qualification Statement are to contain a statement indicating the period during which the proposal will remain valid. A period of not less than ninety (90) days required. The **Bid**/Proposal/Qualification Statement submitted by the bidders/proposer/responders shall become an

integral part of the contract between the County and the bidder/proposer/responder and the representations, covenants, and conditions therein contained shall be binding upon the person, firm or corporation executing the same.

**THE BIDDER(S) IS/ARE RESPONSIBLE FOR READING AND UNDERSTANDING ALL DOCUMENTS, FORMS, SPECIFICATIONS, AND INSTRUCTIONS WITHIN THIS ENTIRE DOCUMENT.** Follow all BID package instructions; **you are responsible for obtaining any information needed in order to respond to this solicitation.** Further, the Bidder is responsible for providing any and all relevant information necessary to submit a response. Failure to do so will be at the Respondent's risk and may result in rejection of the response as non-conforming.

General Requirements apply to all advertised solicitations; however, these may be superseded, whole or in part, by OTHER DATA CONTAINED HEREIN. Be sure your bid package is complete.



**ADDENDUM  
ACKNOWLEDGEMENT FORM**

**CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS -  
WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG  
PROJECT No. CFC24-0004**

Title of Project

**BID # 260103**

Receipt of the following Addendum is acknowledged:  
*Failure to acknowledge an addendum may result in a Respondent being deemed non-responsive.*

Addendum no. \_\_\_\_\_ Date: \_\_\_\_\_

Addendum no. \_\_\_\_\_ Date: \_\_\_\_\_

Addendum no. \_\_\_\_\_ Date: \_\_\_\_\_

Addendum no. \_\_\_\_\_ Date: \_\_\_\_\_

**FINAL ADDENDUM TO BE RELEASED BY CAMERON COUNTY NO LATER THAN**

**FEBRUARY 4<sup>TH</sup>, 2026 BEFORE 4:00P.M.**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title \_\_\_\_\_

\_\_\_\_\_  
Name of Firm

***THIS FORM MUST BE RETURNED WITH YOUR BID PACKAGE***



## SIGNATURE FORM

The undersigned, on behalf of and as the authorized representative of Respondent, agrees this Proposal becomes the property of Cameron County after the official opening.

The undersigned affirms the Respondent has familiarized itself with the local conditions under which the work is to be performed; satisfied itself of the conditions of delivery, handling and storage of equipment and all other matters that may be incidental to the work, before submitting a Proposal.

The undersigned agrees, on behalf of Respondent, that if this Proposal is accepted, to furnish all materials and services upon which price(s) are offered, at the price(s) and upon the terms and conditions contained in the Specifications. The period for acceptance of this Proposal will be sixty (60) calendar days.

The undersigned affirms that they are duly authorized to execute this contract, that this Proposal has not been prepared in collusion with any other Respondent, nor any employee of Cameron County, and that the contents of this Proposal have not been communicated to any other Respondent or to any employee of Cameron County prior to the official opening of this Proposal.

Respondent hereby assigns to Cameron County all claims for overcharges associated with this contract which arise under the antitrust laws of the United States, 15 USCA Section 1 et seq., and which arise under the antitrust laws of the State of Texas, Tex. Bus. & Com. Code, Section 15.01, et seq.

The undersigned affirms that they have read and do understand the specifications and any attachments contained in this solicitation.

**Signature X:** \_\_\_\_\_

\_\_\_\_\_  
Legal Name of Company

\_\_\_\_\_  
Date

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Printed Name of Authorized Representative

\_\_\_\_\_  
City, State and Zip

\_\_\_\_\_  
Title of Authorized Representative

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Fax Number

\_\_\_\_\_  
E-Mail Address

**AFTER HOURS EMERGENCY CONTACT:**

Name: \_\_\_\_\_

Tel. No. \_\_\_\_\_

**THIS FORM MUST BE SIGNED & MUST BE RETURNED WITH BID PACKAGE.**



# **BIDDERS STATEMENT OF ORGANIZATION**

1. Full Name of Business Concern (Proposer):

\_\_\_\_\_

Principal Business Address:

\_\_\_\_\_

\_\_\_\_\_

2. Principal Contact Person(s):

\_\_\_\_\_

Please provide all State of Texas Licenses which will apply to this services: \_\_\_\_\_

\_\_\_\_\_

3. Form of Business Concern (Corporation, Partnership, Joint Venture, Other):

\_\_\_\_\_

If a corporation, in what state incorporated: \_\_\_\_\_

Date Incorporated: \_\_\_\_\_

Month                      Day                      Year

If a Joint Venture or Partnership, date of Agreement(s): \_\_\_\_\_

If a subsidiary, name of guarantor: \_\_\_\_\_

4. Provide names of partners or offices as appropriate and indicate if the individual has the authority to sign in name of Proposer. Provide proof of the ability of the individuals so named to legally bind the Proposer.

Name	Address	Title
_____	_____	_____

5. List all firms participating in this project (including prime contractors, subcontractors, etc.):

Name	Address
<u>1.</u>	_____
<u>2.</u>	_____
<u>3.</u>	_____
<u>4.</u>	_____

6. Outline specific areas of responsibility for each firm listed in Question 5.

1.

2.

3.

4.

7. Identify the provisions of any agreement between parties which assigns legal or financial liabilities or responsibilities:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If responding firm(s) are

a partially or fully owned subsidiary of another firm, or share common ownership with another firm, please identify the firms and relationships.

***THIS FORM MUST BE RETURNED WITH YOUR BID PACKAGE***

## COMPLIANCE WITH FEDERAL AND STATE LAWS

### CERTIFICATION OF ELIGIBILITY

By submitting a Bid in response to this solicitation, the Bidder certifies that at the time of submission, they are not on the Federal Government's list of suspended, ineligible, or debarred entities.

In the event of placement on the list between the time of Bid submission and time of award, the Bidder will notify the Cameron County Purchasing Agent. Failure to do so may result in terminating this contract for default.

### RELATING TO STATE CONTRACTS WITH AND INVESTMENTS IN COMPANIES THAT BOYCOTT ISRAEL AND INVESTMENTS IN COMPANIES THAT DO BUSINESS WITH IRAN, SUDAN, OR ANY KNOWN FOREIGN TERRORIST ORGANIZATIONS.

Bidder verifies that they do not boycott Israel and will not boycott Israel in accordance with Texas Government Code Section 2270.001(2) during the term of this contract. Bidder further verifies pursuant to Texas Local Government Code Section 2252.152 that they are not engaged in business with Iran, Sudan, or any foreign terrorist organization. The term "foreign terrorist organization" means an organization designated as a foreign terrorist organization by the United States Secretary of State as authorized by 8 U.S.C. Section 1189.

### DISCLOSURE OF INTERESTED PARTIES

The law states that a governmental entity may not enter into certain contracts with a nonexempt business entity unless the business entity submits a disclosure of interested parties to the governmental entity. By submitting a Bid in response to this solicitation, the Bidder agrees to comply with HB 1295, Government Code 2252.908. Bidder agrees to provide Cameron County Purchasing Agent, and/or requesting department, the "Certificate of Interested Parties," Form 1295 as required, within ten (10) business days from notification of pending award, renewal, amended or extended contract.

### VENDOR IS EXEMPT FROM CERTIFICATION REGARDING ENERGY COMPANIES AND FIREARM ENTITIES OR FIREARM TRADE ASSOCIATIONS:

Vendor is a sole proprietorship OR is a non-profit entity OR Vendor is a company that does NOT have 10 or more full-time employees AND/OR this contract does NOT have a value of \$100,000.00 or more that is to be paid wholly or partly paid from public funds of the governmental entity.

If the Vendor Cannot Certify that it is EXEMPT as Above, Vendor Must Certify as

Follows: Vendor is NOT EXEMPT and Certifies as follows:

Boycott of Energy Companies Prohibited. In compliance with Section 2274.002 of the Texas Government Code (added by 87<sup>th</sup> Legislature S. B. 13), Vendor verifies that it does not boycott energy companies and will not boycott energy companies during the term of the above-described contract. "Boycott energy company" is defined in Section 809.001(1) (added by 87<sup>th</sup> Legislature, S. B. 13) and means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards

beyond applicable federal and state law; or (B) does business with a company described by subsection (A).

**COMPLIANCE WITH FEDERAL AND STATE LAWS**

**Discrimination against Firearm Entities or Firearm Trade Associations Prohibited. In compliance with Section 2274.002 of the Texas Governmental Code (added by 87<sup>th</sup> Legislature, S. B. 19), Vendor verifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and will not discriminate during the term of the above-described contract] against a firearm entity or firearm trade association. "Discriminate against a firearm entity or firearm trade association" is defined in Section 2274.001(3) {added by 87<sup>th</sup> Legislature, S. B. 19 and means, with respect to the entity or association, to (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; the term *does not include*: (i) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; and (ii) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship: (aa) to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency; or (bb) for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association.**

**Vendor Hereby Certifies (Mark Applicable Certification):**

\_\_\_\_\_ Vendor is EXEMPT from Certification as set out above.

\_\_\_\_\_ Vendor is NOT EXEMPT from Certification as set out above, and Vendor Certifies that it does not and will not Boycott Energy Companies and that it does not and will not engage in prohibited Discrimination against Firearm Entities or Firearm Trade Associations.

**Signature X:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Vendor Name:** \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**THIS FORM MUST BE SIGNED & MUST BE RETURNED WITH BID PACKAGE.**

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**HISTORICALLY UNDERUTILIZED BUSINESS (HUB) DECLARATION**

The primary objective of the Cameron County HUB Program is to ensure Historically Underutilized Businesses receive a fair and equal opportunity for participation in the County's procurement process. This fact holds true for Services (Professional & Non-Professional), Commodities, and Construction contracts and any subcontracts thereto. The program strongly encourages Prime Contractors to provide subcontracting opportunities to Certified Hub Contractors/Vendors. Our goal for HUB contractor/vendor participation, as well as HUB subcontractor participation is 30%. To be considered as a "Certified HUB Contractor/Vendor" the contractor/vendor must have been certified by, and hold a current and valid certification with any of the three agencies listed below.

Have you been Certified as a HUB or an MBE/WBE source?:  Yes  No

If yes, by whom?:  Texas Building & Procurement Commission  Other \_\_\_\_\_

Indicate Certification No(s): \_\_\_\_\_ or Are Certificate(s) Attached?:  Yes  No

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**LIST OF CERTIFIED HUB SUBCONTRACTORS**

(Attach additional pages if necessary)

What percentage of the Bid, RFP, or RFQ is to be subcontracted with Certified HUB sources?: \_\_\_\_\_ %  
(List HUB Subcontractor information below).

HUB Subcontractor Name: \_\_\_\_\_ HUB Status:  
Certifying Agency (Check all applicable):  Texas Building & Procurement Commission  Other  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip:  
Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_ Phone No.: ( )  
Subcontract Amount: \$ \_\_\_\_\_ Description of Work to be Performed:

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HUB Subcontractor Name: \_\_\_\_\_ HUB Status:  
Certifying Agency (Check all applicable):  Texas Building & Procurement Commission  Other  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip:  
Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_ Phone No.: ( )  
Subcontract Amount: \$ \_\_\_\_\_ Description of Work to be Performed:

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HUB Subcontractor Name: \_\_\_\_\_ HUB Status:  
Certifying Agency (Check all applicable):  Texas Building & Procurement Commission  Other  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip:  
Contact Person: \_\_\_\_\_ Title: \_\_\_\_\_ Phone No.: ( )  
Subcontract Amount: \$ \_\_\_\_\_ Description of Work to be Performed:

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***THIS FORM MUST BE RETURNED WITH YOUR BID PACKAGE***

Bid Title \_\_\_\_\_ Bidders Name \_\_\_\_\_ Date: \_\_\_\_\_

**VENDOR REFERENCES**

Please list three (3) references of current customers who can verify the quality of service your company provides. The County prefers customers of similar size and scope of work to this bid.

***THIS FORM MUST BE RETURNED WITH YOUR BID.***

**REFERENCE ONE**

Government/Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person and Title: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail address: \_\_\_\_\_

Contract Period: \_\_\_\_\_ Scope of Work \_\_\_\_\_

**REFERENCE TWO**

Government/Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person and Title: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail address: \_\_\_\_\_

Contract Period: \_\_\_\_\_ Scope of Work \_\_\_\_\_

**REFERENCE THREE**

Government/Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person and Title: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail address: \_\_\_\_\_

Contract Period: \_\_\_\_\_ Scope of Work \_\_\_\_\_

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**AFFIDAVIT**

The undersigned certifies that the bid prices contained in this bid have been carefully checked and are submitted as correct and final and if bid is accepted (within 90 days unless otherwise noted by vendor), agrees to furnish any and/or all items upon which prices are offered, at the price(s) and upon the conditions contained in the Specifications.

STATE OF TEXAS  
COUNTY OF CAMERON

BEFORE ME, the undersigned authority, A Notary Public in and for the State of Texas, on this day personally appeared

\_\_\_\_\_  
who, after having first been duly sworn, upon oath did depose and say;  
That the foregoing bid submitted by \_\_\_\_\_

\_\_\_\_\_  
hereinafter called "Bidder" is the duly authorized agent of said company and that the person signing said proposal has been duly authorized to execute the same. Bidder affirms that they are duly authorized to execute this contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other Bidder. The bidder is not a member of any trust, pool, or combination to control the price of products or services bid on, or to influence any person to bid or not to bid thereon. I further affirm that the bidder has not given, offered to give, nor intends to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discounts, trip, favor, or service to a public servant in connection with the submitted Bid. The contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this bid.

Name and Address of Bidder:

\_\_\_\_\_  
\_\_\_\_\_

Telephone number \_\_\_\_\_  
Fax number \_\_\_\_\_

\_\_\_\_\_  
Signature  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

SWORN TO AND SUBSCRIBE BEFORE ME THIS \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the State of Texas

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**RESIDENCE CERTIFICATION**

Pursuant to Texas Government Code §2252.001 *et seq.*, as amended, Cameron County requests Residence Certification. §2252.001 *et seq.* of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

“Nonresident bidder” refers to a person who is not a resident.

“Resident bidder” refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

I certify that \_\_\_\_\_ is a Resident  
(Company Name)  
Bidder of Texas as defined in Government Code §2252.001.

I certify that \_\_\_\_\_ is a Nonresident  
(Company Name)  
Bidder as defined in Government Code §2252.001 and our principal place of business is  
\_\_\_\_\_  
(City and State)

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**NON-COLLUSION STATEMENT**

**CAMERON COUNTY EXPRESSLY REQUESTS THAT BIDDERS / PROPOSERS NOT DISCUSS THIS ENGAGEMENT OR THIS BIDDER'S / PROPOSER'S PLANS, EXPERIENCE OR CREDENTIALS WITH OTHER BIDDERS / PROPOSERS OR ANY MEMBER OF COMMISSIONERS' COURT, ANY COUNTY OFFICIAL, OR ANY EVALUATION COMMITTEE MEMBER APPOINTED BY COMMISSIONERS COURT. EXCLUDED ARE PRE-BID OR PRE-PROPOSAL CONFERENCES, EVALUATION COMMITTEE SCHEDULED VENDOR PRESENTATIONS OR VENDOR INTERVIEWS, OR EVALUATION COMMITTEE SCHEDULED EQUIPMENT OR SERVICES DEMONSTRATIONS. YOU MAY CONTACT THE PURCHASING AGENT /PURCHASING DEPARTMENT AT ANY TIME.**

**FROM BID OPENING DATE THROUGH COMMISSIONERS COURT MEETING FOR SELECTION, VENDORS SHALL NOT APPROACH THE COUNTY JUDGE OR COMMISSIONERS TO DISCUSS MATTERS PERTAINING TO THIS BID.**

- 01. Has any individual with the firm submitting this Proposal/Bid/Response made any contact with any member of Commissioners Court, any County Official, or an Evaluation Committee member concerning this Invitation to Bid/RFP/RFQ, other than questions to the Assistant County Auditor/Purchasing Officer?

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- 02. Has any individual with the firm submitting this Proposal/Bid/Response made any contact with any other Bidder or Proposer concerning this Invitation to Bid/RFP/RFQ?

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\_\_\_\_\_  
Signature of person submitting this Bid

\_\_\_\_\_  
Date

***THIS FORM MUST BE RETURNED WITH YOUR BID***

ORDER NO. 2007O2005

THE STATE OF TEXAS §
COUNTY OF CAMERON §

ORDER ADOPTING CONTRACTING RULES FOR PERSONS INDEBTED TO COUNTY

WHEREAS, pursuant to V.T.C.A., Local Government Code, Section 262.0276, a commissioner’s court is authorized to adopt rules permitting a county to refuse to enter into a contract or other transaction with a person indebted to the county;

WHEREAS, the Commissioners Court of Cameron County finds it is in the best interest of Cameron County to adopt such rules;

NOW THEREFORE, BE IT ORDERED by the Commissioners Court of Cameron County, that the following rules be adopted regarding Cameron County and persons interested in doing business with Cameron County:

- 1. Cameron County may refuse to enter into a contract or other transaction with a person with a past due debt to Cameron County, including delinquent ad valorem taxes, even if the person is the lowest bidder or successful proposer; and
2. For purposes of this Order, a debt is past due if it is not received in the County Treasurer’s Office by the due date in a written agreement or notice, and ad valorem taxes are past due if not received in the County Tax Assessor/Collector’s Office by February 1st following the January 1st on which the ad valorem taxes are due.
3. For purposes of this Order, a person includes an individual, sole proprietorship, corporation, nonprofit corporation, partnership, joint venture, limited liability company, and any other entity that proposes or otherwise seeks to enter into a contract or other transaction with Cameron County requiring approval by the Commissioners Court.

ADOPTED this 13 day of March, 2007.

01. Is the person or the firm submitting this Bid current with all local and State taxes?

\_\_\_\_\_

Signature of person submitting this Bid

Date

THIS FORM MUST BE RETURNED WITH YOUR BID

### Certification Regarding Debarment & Suspension Ineligibility

As is required by the Federal Regulations Implementing Executive Order 12549, Debarment and Suspension, 45 CFR Part 76, Government-wide Debarment and Suspension, in the applicant certifies, to the best of his or her knowledge and belief, that both it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency;
- b. Have not within a three-year period preceding this bid/proposal and/or application 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, theory, 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 with commission of any of the offenses enumerated herein; and
- d. Have not within a three-year period preceding this bid/proposal and/or application had one or more public transactions terminated of cause or default.

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Date: \_\_\_\_\_

If the Bidder / Proposer is unable to certify to all of the statements in this Certification, such Bidder / Proposer should attach an explanation to this Bid / Proposal.

THIS FORM MUST BE RETURNED WITH YOUR BID

SWORN STATEMENT ON DEBARMENT

This SWORN statement is submitted with project number \_\_\_\_\_

By: \_\_\_\_\_  
(PRINT INDIVIDUALS NAME AND TITLE)

For: \_\_\_\_\_  
(PRINT NAME OF ENTITY SUBMITTING SWORN STATEMENT)

whose business address is:

\_\_\_\_\_  
CITY STATE ZIP VOICE PHONE

and if applicable its Federal Employee Identification Number (FEIN) is: \_\_\_\_\_

(INDICATE WHICH STATEMENTS APPLY)

\_\_\_\_\_ Neither the entity submitting this SWORN statement, nor any of its officers, directors, executives, partners, shareholders, employees, members or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime.

\_\_\_\_\_ The entity submitting this SWORN statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity **HAS BEEN CHARGED WITH AND CONVICTED OF A PUBLIC ENTITY CRIME.**

\_\_\_\_\_ The entity submitting this SWORN statement is not present on any Federal list of debarred contractors, nor been debarred from any other type of contracting.

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
(Printed Name) (Title)

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Personally known \_\_\_\_\_ OR Produced identification \_\_\_\_\_  
SHOW TYPE OF IDENTIFICATION

Notary Public State of \_\_\_\_\_, County of \_\_\_\_\_ My commission expires \_\_\_\_\_

\_\_\_\_\_  
(PRINTED/TYPED/ OR STAMPED COMMISSIONED NAME OF NOTARY PUBLIC)

Architects, Engineers, Construction

The applicant certifies, to the best of his or her knowledge and belief, that the information noted below for it and its principals are accurate:

- a. List all previous law suits with Public entities and the results of such suits over the past 7 years.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. List all projects that have exceeded Budget, what % over budget and why – over the past 5 years.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- c. List all projects that have exceeded the project completion due date, how many days over and why – over the past 5 years.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Date: \_\_\_\_\_

If the Bidder / Proposer is unable to certify to all of the statements in this Certification, such Bidder / Proposer should attach an explanation to this Bid / Proposal.

**THIS FORM MUST BE RETURNED WITH YOUR BID**

*(attach pages if necessary due to space limitations)*

**Certification**

**Regarding Resolution Requiring Minimum Wage Rate**

As is required by Resolution No. 2008R12092:

**A RESOLUTION IN SUPPORT OF MAINTAINING A HIGHER MINIMUM WAGE REQUIREMENT FOR ALL CONTRACTORS DOING WORK FOR CAMERON COUNTY**

the applicant (Bidder) certifies, to the best of his or her knowledge and belief, that the Prime Contractor and Subcontractor contracts shall explicitly include a minimum wage of \$8.50 per hour for all full time and part time employees hired by the prime and subcontractors for any and all work performed for Cameron County in this Bid.

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Date: \_\_\_\_\_

If the Bidder / Proposer is unable to certify to all of the statements in this Certification, such Bidder / Proposer should attach an explanation to this Bid / Proposal.

**THIS FORM MUST BE RETURNED WITH YOUR BID**

Company Name:

Please answer each individual question. If it does not pertain to your company, please write "N/A" and sign at the bottom of page

**CONFLICT OF INTEREST QUESTIONNAIRE**  
For vendor doing business with local governmental entity

**FORM CIQ**

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

**OFFICE USE ONLY**

Date Received

**1 Name of vendor who has a business relationship with local governmental entity.**

**2**  **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

**3 Name of local government officer about whom the information is being disclosed.**

\_\_\_\_\_  
Name of Officer

**4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

Yes  No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

Yes  No

**5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

**6**  Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

**7**

\_\_\_\_\_  
Signature of vendor doing business with the governmental entity

\_\_\_\_\_  
Date

**CONFLICT OF INTEREST QUESTIONNAIRE**  
**For vendor doing business with local governmental entity**

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

**Local Government Code § 176.001(1-a):** "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

**Local Government Code § 176.003(a)(2)(A) and (B):**

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

\*\*\*

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

**Local Government Code § 176.006(a) and (a-1)**

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

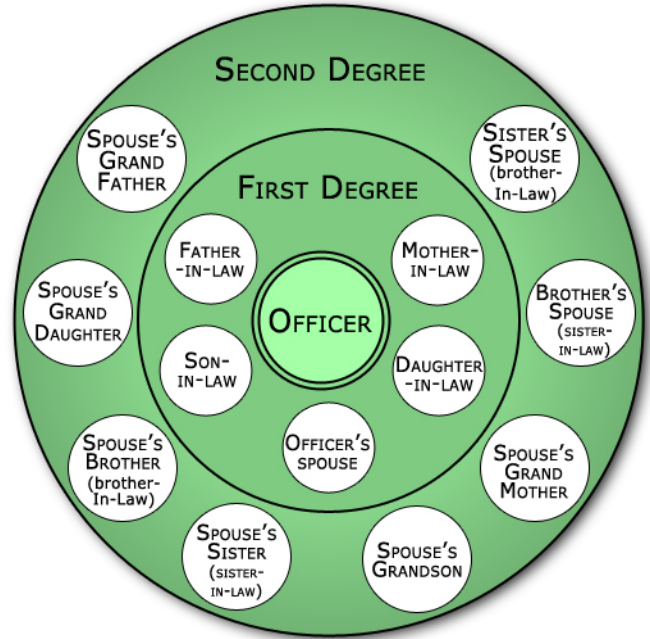
***THIS FORM MUST BE RETURNED WITH YOUR BID***

# NEPOTISM CHART

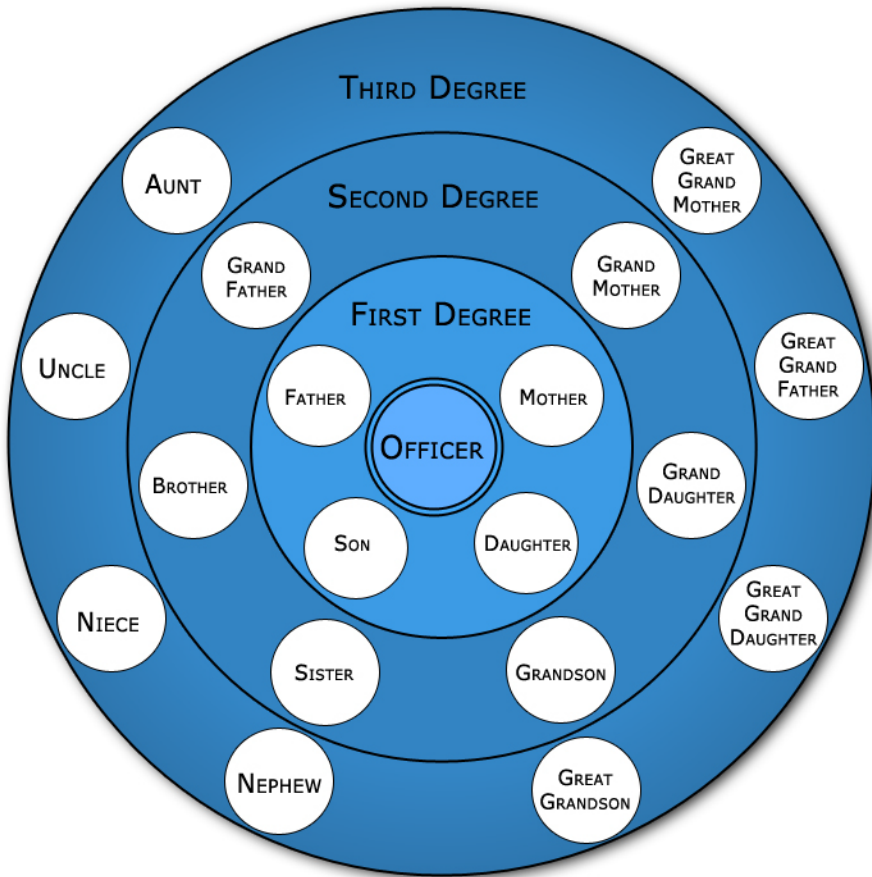
The chart below shows

- **Affinity Kinship** (relationship by marriage)
- **Consanguinity Kinship** (relationship by blood) for purposes of interpreting nepotism as defined in VTCA Government Code, Chapter 573, §§573.021 - .025

## AFFINITY KINSHIP Relationship by Marriage



## CONSANGUINITY KINSHIP Relationship by Blood



**DISCLOSURE OF INTERESTS**

**MUST BE FILLED OUT AND SUBMITTED WITH THE BID/RFP/RFO**  
**IF DISCLOSING: BIDDER / PROPOSER MUST ALSO FILE WITH THE COUNTY CLERK'S OFFICE**  
**THE PURCHASING DEPT. WILL NOT BE FILING ON THE BIDDER'S BEHALF**

Cameron County, Texas requires all persons or firms seeking to do business with the County to provide the following information. Every question must be answered. If the question is not applicable, answer with "N/A." By law this questionnaire must be filed with the records administrator (County Clerk's Office) of the local government.

Date \_\_\_\_\_

FIRM NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

FIRM is: 1. Corporation ( )      2. Partnership ( )      3. Sole Owner ( )  
 4. Association ( ) 5. Other ( ) \_\_\_\_\_

**DISCLOSURE QUESTIONS**

If additional space is necessary, please use the reverse side of this page or attach separate sheet.

1. State the names of each "employee, elected official, or member of Commissioners Court" of Cameron County having Substantial Interest in Business Entity Local Govt. Code §171.002 (use box below)

a) For purpose of this chapter, a person has a substantial interest in a business entity if :

- (1) the person owns 10 percent or more of the voting stock or shares of the business entity or owns either 10 percent or more or \$15,000 or more of the fair market value of the business entity; or
- (2) funds received by the person from the business entity exceeds 10 percent of the person's gross income for the previous year.

b) A person has a substantial interest in real property if the interest is an equitable or legal ownership with a fair market value of \$2,500 or more.

c) A local public official is considered to have a substantial interest under this section if a person related to the official in the first degree by consanguinity or affinity, as determined under Chapter 573, Government Code, has a substantial interest under this section.

**Please write "N/A" in the boxes if non-applicable**

Name	Title	Department

**CERTIFICATE**

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the Cameron County as changes occur.

Certifying Person: \_\_\_\_\_ Title: \_\_\_\_\_ (Type or Print)

Signature of Certifying Person: \_\_\_\_\_ Date: \_\_\_\_\_

***THIS FORM MUST BE RETURNED WITH YOUR BID***



**HOUSE BILL 89 VERIFICATION (REVISED)**

I, \_\_\_\_\_,  
[Person Name]

the undersigned representative of \_\_\_\_\_  
[Company or Business Name]

(hereafter referred to as Company) being an adult over the age of eighteen (18) years of age, does hereby depose and verify that the Company named above, under the provisions of Subtitle F, Title 10, Texas Government Code Chapter §2270:

- 1. Does not currently boycott the country of Israel; and
- 2. Will not boycott the country of Israel during the term of the contract with Cameron County, Texas.

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

*Pursuant to Section §2270.001, Texas Government Code:*

- 1. *“Boycott Israel” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and*
- 2. *“Company” means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.*
- 3. *Pursuant to Section §2270.002 of the Texas Government Code, Respondent certifies that either (i) it meets an exemption criterion under Section §2270.002; or (ii) it does not boycott Israel and will not boycott Israel during the term of the contract resulting from this solicitation. Respondent shall state any facts that make it exempt from the boycott certification in its Response. (HB 793 – exemptions).*

**EXEMPTIONS APPLY TO THE FOLLOWING:**

- between a governmental entity and a company with less than 10 full-time employees*
- has a value of less than \$100,000 paid wholly or partly from public funds of the governmental entity*

**THIS FORM MUST BE RETURNED WITH YOUR BID**

**Please attach the 1295 Form**

**See link below to login to  
Texas Ethics Commission website**

**[1295 Filing Info](#)**

***THIS FORM MUST BE RETURNED WITH YOUR BID***

## TEXAS OPEN RECORDS ACT AND CONFIDENTIALITY

All materials submitted to Cameron County, Purchasing Department pursuant to this Invitation for Bid/Request for Proposals/Statement of Qualifications become subject to the mandates of the Texas Open Records Act, Government Code, Chapter 552, Subchapter A, §§552.009; Subchapter D, §§552.205; and Subchapter F, §§552.261 through 552.274. The purpose of this Act is to ensure and facilitate the public's right of access to and review of government records so they may efficiently and intelligently exercise their inherent political power. Almost all "records," as that term is defined in the Act, may be disclosed to the public upon request. Except where specific state or federal statutes create a confidential privilege, persons who submit information to public bodies have no right to keep this information from public access or reasonable expectation that this information will be kept from public access.

If you believe that any of the information you have submitted to the County pursuant to this Request for Proposals is **confidential** under a specific state or federal statute and therefore not subject to the public access, *you must comply with the following:*

- A. Place said documents/records in a separate envelope marked "**Confidential**" **DO NOT** label your entire response to the Bid/Request for Proposals/Statement of Qualifications as "Confidential" – label only those portions of the response that you feel are made confidential by state or federal law as "Confidential." If only a portion of a document is confidential, please identify specifically the portions of the document you are claiming are confidential. Under the State of Texas Open Records Act, the County is obligated to produce documents for public inspection even if the documents contain a portion which is confidential but can redact the confidential parts.
- B. For each such document for which you are claiming a confidential privilege, identify the federal and/or state law that creates said privilege, e.g., for trade secrets.

Should an Open Records request be presented to the County requesting information you have identified as "Confidential," you will be responsible for defending your position in the Court where the proceeding is filed, if needed.

***If you fail to identify any records submitted as part of your Bid/Request for Proposals/Statement of Qualifications as "Confidential" by placing them in the "Confidential" envelope AND you fail to identify the specific state or federal law creating said privilege, you are irrefutably agreeing that said records are not confidential and are subject to public access.***

**GENERAL TERMS & CONDITIONS**  
**(Requests for Bids (RFB))**

**ADDENDA:** If RFB specifications, terms or conditions are revised, the Cameron County Purchasing Department will issue an addendum addressing the nature of the changes and notify interested potential bidders. Bidders must acknowledge receipt and consideration of any such changes by signing the addendum and including it in the package containing the Bidder's submittal.

**ADVERTISING:** Unless otherwise required by law, bidders responding to County RFBs shall not publish and shall keep confidential their intentions and actions respecting any response to the RFB.

**AWARD:** Cameron County may hold RFB responses until award is made. Cameron County reserves the right to reject any or all responses to RFBs. Cameron County reserves the right to award a contract, if any, based on the bidder's response when compared to the EVALUATION CRITERIA (AS STATED IN THE RFB) and, in accordance with the laws of the State of Texas, reserves the right to waive any formality or irregularity, to make awards to more than one bidder. Commissioners Court reserves the right to determine the method and procedures for the final award of the bid at any time they may choose, regardless of the Point System used by the Evaluation Committee.

**BONDS:** If the contract that may be entered into with the County will likely require a performance guarantee or bond, the Purchasing Department will attach a separate page to the RFB explaining those requirements.

**CANCELLATION AND TERMINATION:** In any contract resulting from the RFB, the County shall have the right to cancel all or any part of the undelivered portion of the contract if (1) Bidder breaches any of the terms hereof, including, but not limited to, applicable warranties, and/or the (2) Bidder becomes insolvent or files for bankruptcy. Such right of cancellation is in addition to, and not in lieu of, any other remedies which the County may have in law or equity. Cancellation of work hereunder shall be effected by the delivery of a "Notice of Cancellation of Undelivered Work" specifying the extent to which performance of work, including all goods and services, under the contract is cancelled and the date upon which such cancellation becomes effective.

The performance of work under any resulting contract may be terminated in whole, or in part, by the County in accordance with this provision. The County shall have the right to terminate all or any part of the contract if (1) the Bidder breaches any of the terms hereof, including, but not limited to, applicable warranties, and/or (2) Bidder becomes insolvent or files for bankruptcy. Such right of termination is in addition to, and not in lieu of, any other remedies which the County may have in law or equity. Termination of work hereunder shall be affected by the delivery of a "Notice of Termination" specifying the extent to which performance of work, including all goods and services, under the contract is terminated and the date upon which such termination becomes effective.

**CHANGE ORDERS:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing by mutual consent of the Bidder and the County.

**CONTRACT RENEWALS:** Contract Renewals must receive Commissioners Court approval. For contract renewal status and information, please contact Elisa Cisneros at 956-982-5405 e-mail: Elisa.Cisneros2@co.cameron.tx.us Cameron County Purchasing Dept. or Dylbia Jeffries 956-550-1340 djefferies@co.cameron.tx.us at the Cameron County Civil Legal Division. Any price escalations are limited to those stated by the original contract terms. All contracts with a one (1) year renewal option require that the Bidder must notify Cameron County of any anticipated price increases in writing at least three months (90 calendar days) prior to the annual renewal award date unless otherwise specified within the specific provisions of the contract up for renewal. This allows the County sufficient time to find an alternative vendor, if possible. If Bidder fails to notify the County within time noted it shall be assumed that there will be no price increase for the following year's award period if renewed. This procedure does not apply to any contract which allows for Open Market Price increases or Cost allowance increases.

**DISCRIMINATION:** In order to encourage fair employment practices, the Bidder agrees as follows: 1.) Bidder will not discriminate against any employee or applicant for employment because of race, sex, color, age, religion, handicap, or national

origin; 2) in all solicitations or advertisements for employees, the Bidder will state that all qualified applicants will receive consideration without regard to race, color, sex, age, religion, handicap or national origin; 3) the Bidder will furnish such relevant information and reports as requested by the County for the purpose of determining compliance with these regulations; and 4) failure of the Bidder to comply with these laws will be deemed a breach of contract and it may be cancelled, terminated or suspended in a whole or in part as a result thereof.

**DISQUALIFICATION OF BIDDER:** Upon submitting a response to this RFB, Bidder certifies that the Bidder has not violated the antitrust laws of this state codified in Texas Business and Commerce Code 15.01, *et seq.*, as amended, or the federal antitrust laws, and has not communicated directly or indirectly its RFB considerations, plan or response to any competitor or any other person engaged in such line of business. Any and all responses may be rejected if the County believes that collusion exists among the Bidders. If multiples are submitted by a Bidder and, after all responses to the RFBs are opened one or more of the responses are withdrawn the result will be that all of the responses submitted by that Bidder will be withdrawn; however, nothing herein prohibits a Bidder from submitting multiples for different products or services.

**EVALUATION:** All responses will be evaluated in accordance with law and reviewed to assure they are in the best interest of Cameron County. Evaluations shall be based on criteria bearing on price, and performance of the items or services in the user environment. Any specific criteria section or sections identified elsewhere in the RFB response may be evaluated by one or more evaluators once the basis and details of this process have been approved by the Purchasing Officer and acknowledged by the Evaluation Committee. Detailed information pertaining to this selective evaluation process is available to Bidders and the Commissioners Court upon request. Evaluation sheets and any summary of all responses are subject to review by the Cameron County Purchasing Department and Evaluation Committee's recommendation to Cameron County Commissioners Court. Compliance with all RFB requirements, delivery terms and needs of the using department are considerations in evaluating responses. Pricing is NOT the only criterion for making a recommendation (see criteria and relative importance of price and other evaluation factors, if any, specified elsewhere in this RFB). The Cameron County Purchasing Department reserves the right to contact any Bidder, at any time, to clarify, verify or request information with regard to that Bidder's response.

**PROTEST PROCEDURES:** Procedure - This protest procedure is available to Bidders responding to this RFB and requesting a debriefing conference.

Debriefing Conference – A debriefing conference must be requested in writing to the Purchasing Department within five (5) business days from the date of the RFB award by the Cameron County Commissioners' Court. Debriefing questions must be submitted in writing to the Purchasing Department no later than two (2) business days before the scheduled date for the Debriefing Conference. These questions will be answered at the debriefing conference. Follow-up questions must be submitted (in writing) no later than one (1) business day after the date of the Debriefing Conference and answered no later than two (2) business days after the date of the Debriefing Conference. Follow-up answers will be sent via e-mail or fax (if e-mail not available). For RFBs, Bidders are given the opportunity to ask questions of the Evaluation Committee relative to their responses and the Committee's scores.

Protests are made: 1. To the Purchasing Department after the debriefing conference. Bidder protests shall be received, in writing, by the Purchasing Department within five (5) business days after the debriefing conference. 2. To the Protest Committee, only after the protest to the Purchasing Department was not satisfactorily resolved. Protests to the Protest Committee shall be made within five (5) business days after the Bidder has received notification from the County Purchasing Department of its decision.

Format and Content - Protesting Bidders shall include, in their written protest to the Cameron County Purchasing Department, all facts and arguments upon which they rely. Bidders shall, at a minimum, provide:

Grounds for protest – 1. Errors were made in computing the score. 2. The County failed to follow procedures established in the Bid, the Purchasing policy: Acquisition or applicable state or federal laws or regulations. 3. Bias, discrimination or conflict of interest on the part of an evaluator. Protests not based on these criteria shall not be considered.

Format and Content - Protesting vendors shall include, in their written protest to the Cameron County Purchasing Department, all facts and arguments upon which they rely. Vendors shall, at a minimum, provide: 1. Information about the protesting vendor;

name of firm, mailing address, phone number and name of individual responsible for submission of the protest. 2. Information about the acquisition and the acquisition method. 3. Specific and complete statement of the County's action(s) protested. 4. Specific reference to the grounds for the protest. 5. Description of the relief or corrective action requested. 6. For protests to the Commissioners Court, a copy of the Purchasing Department's written decision on the protest.

Review Process – 1. Upon receipt of a vendor protest, the Purchasing Department shall postpone further steps in the acquisition process until the vendor protest has been resolved. 2. The Department's internal protest review procedures consist of the following: a) The Purchasing Department shall perform an objective review of the protest by individuals not involved in the acquisition protested. The review shall be based on the written protest material submitted by the vendor. b) A written decision will be delivered to the vendor within five business days after receipt of the protest, unless more time is needed. The protesting vendor shall be notified if additional time is necessary.

Final Determination - The final determination shall 1. Find the protest lacking in merit and uphold the agency's action; or 2. Find only technical or harmless errors in the agency's acquisition process conduct, determine the agency to be in substantial compliance, and reject the protest; or 3. Find merit in the protest and provide the agency options which may include a) Correct its errors and reevaluate all proposals, and/or b) Reissue the vendor solicitation document; or c) Make other findings and determine other courses of action as appropriate.

Commissioners Court Review Process - Protests to the Commissioners Court may be made only for Commissioners Court approved acquisitions, and only after review by the County Purchasing Department. Protests of the decisions of County Purchasing Department shall be made by letter to the County Judge, Commissioners Court, who may establish procedures to resolve the protest. Protests shall be received by the County Judge, Commissioners Court, within five business days after the decision of the Purchasing Department in order to be considered. The resulting decision is final, with no further administrative appeal available.

**FISCAL FUNDING:** A multi-year lease or lease/purchase arrangement (if requested by the Special Requirements/Instructions), or any contract continuing as a result of an extension option, must include a "fiscal funding out" clause. If, for any reason, funds are not appropriated to continue the lease or contract, said lease or contract shall become null and void on the last day of the current appropriation of funds. After expiration of the lease, leased equipment shall be removed by the Bidder from the using department without penalty of any kind or form to Cameron County. All charges and physical activity related to delivery, installation, removal and redelivery shall be the responsibility of the Bidder.

**GRATUITIES AND PROHIBITION AGAINST PERSONAL INTEREST IN CONTRACTS:** Any elected or appointed official who has any substantial interest, either direct or indirect, in any business entity seeking to contract with the County, shall, before any vote or decision on any matter involving the business entity, file an affidavit stating the nature and extent of interest and shall abstain from any participation in the matter. This is not required if the vote or decision will not have any special effect on the entity other than its effect on the public. However, if a majority of the governing body is also required to file, and do file similar affidavits, then the member is not required to abstain from further participation. Attached and included in this RFB is a disclosure of all of this Company's business or pecuniary financial relationships with officers or employees of Cameron County or County entities (if any such relationships exist) which must be filled out, attached and included with the RFB response. The County may, by written notice to the Bidder, cancel this contract without liability to Bidder if it is determined by County that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Bidder, or any agent, or representative of the Bidder, to any officer or employee of Cameron County with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or the making or any determinations with respect to the performance of such a contract. In the event this contract is cancelled by County pursuant to this provision, County shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the costs incurred by Bidder in providing such gratuities. Consistent and continued RFB responses that end in a tie could cause rejection of any RFB response by the County and/or investigation for Anti-Trust violations. Bidder guarantees that he has not retained a person to solicit or secure any contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the Bidder for the purpose of securing business.

**HISTORICALLY UNDERUTILIZED BUSINESS (HUB) CERTIFICATION:** If Bidder is a Certified Historically Underutilized Business (HUB), please include a copy of your HUB Certificate with your —RFB response. This information will assist Cameron County in the percentage tracking of HUB utilization.

**LOCAL BIDDER'S PRINCIPAL PLACE OF BUSINESS - 3% PREFERENCE:** (consideration of location) This local preference consideration is allowable for Equipment and Supplies but not allowed for Services and/or Construction related requests. The County Commissioner's Court may award to the lowest Bidder or the Bidder whose principal place of business is within Cameron County if the Commissioner's Court determines, in writing, that the local Bidder offers the County the best combination of contract price and additional economic development opportunities for Cameron County created by the contract award, including the employment of residents of Cameron County and increased tax revenues to Cameron County. This option exists only within 3% of the lowest price. In order to provide the County Commissioners Court adequate information in considering this option, the Bidder should submit with each bid response the following information for Commissioners Court's review with all information requested complete with detailed, current and quantifiable numeric data:

1. Where is your principal place of business (Business Headquarters) City, County, State, Signature of Bidder, Title, Date? Along with this information, submit information with responses to the following questions:

- a.) Why and how Bidder believes that the local Bidder offers the County additional economic development opportunities for Cameron County created by the contract award?
- b.) How will award to local Bidder benefit the employment of residents of Cameron County?
- c.) How many employees does Bidder employ within Cameron County and how many employees are affected financially by award/purchase?
- d.) How will award to local Bidder increase tax revenues to Cameron County?

This information should be provided and updated with each bid response submitted to the County. If Bidder is local and within 3% of the lowest bid price, this information will be submitted to Commissioner's Court along with tabulation sheet. There has been no mandatory requirement or Policy established by Commissioners Court which requires submitting answers to these questions or attending Commissioners Court meetings for the awarding of RFBs relative to the 3% local preference, however individual Commissioners may or may not have preferences (relative to these issues) when making their decision. This paragraph will be revised upon policy change made by Commissioners Court.

**INSURANCE:** The Bidder shall secure and maintain, throughout the duration of the Contract, insurance of such types and in such amounts as may be necessary to protect the Bidder and the interests of the County against all hazards or risks of loss as hereinafter specified. The form and limits of such insurance, together with the insurer, shall be acceptable to the County. It shall be the responsibility of the Bidder to maintain adequate insurance coverage at all times. Failure of the Bidder to maintain adequate coverage shall not relieve the Bidder of any contractual responsibility or obligation.

**MAINTENANCE:** Maintenance required for equipment requested in RFBs should be available in Cameron County by a manufacturer authorized maintenance facility. Costs for this service shall be shown on the Pricing/Delivery Information form. If Cameron County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced accordingly.

**MATERIAL SAFETY DATA SHEETS:** Under the "Hazardous Communication Act", commonly known as the "Texas Right To Know Act", a Bidder must provide to the County with each delivery, material safety data sheets which are applicable to hazardous substances defined in the Act. Failure of the Bidder to furnish this documentation will be cause to reject any bid applying thereto.

**NAME BRANDS:** Specifications may reference name brands and model numbers. It is not the intent of Cameron County to restrict responses to RFBs in such cases, but to establish a desired quality level of merchandise or to meet a pre-established standard common to similar existing items. Bidders may offer items of equal stature and standard, but the burden of proof of such

stature and standard rests with Bidders. Cameron County shall act as sole judge in determining equality and acceptability of products offered.

**PRICING:** Prices for all goods and/or services shall be firm for the duration of the contract and shall be stated on the Pricing/Delivery Information form. Prices shall be all inclusive: No price changes, additions, or subsequent qualifications will be honored during the term of the contract. All prices must be written in ink or typewritten. Pricing on all transportation, freight, drayage and other charges are to be prepaid by the Bidder and included in the price. If there are any additional charges of any kind, other than those mentioned above, specified or unspecified, Bidder **MUST** indicate the items required and attendant costs or forfeit the right to payment for such items. Where unit pricing and extended pricing differ, unit pricing prevails.

**RECYCLED MATERIALS:** Cameron County encourages the use of products made of recycled materials and shall give preference in purchasing to products made of recycled materials if the products meet applicable specifications as to quantity and quality. County will be the sole judge in determining product preference application.

**SCANNED RE-TYPED RESPONSE:** If in its RFB response, Bidder either electronically scans, re-types, or in some way reproduces the County's published RFB package, then in event of any conflict between the terms and provisions of the County's published RFB specifications, or any portion thereof, and the terms and provisions of the — RFB response made by Bidder, the County's RFB specifications as published shall control. Furthermore, if an alteration of any kind to the County's published RFB specifications is only discovered after the contract is executed and is or is not being performed, the contract is subject to immediate cancellation.

**SILENCE OF SPECIFICATIONS:** The apparent silence of specifications as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of specifications shall be made on the basis of this statement. The items furnished under this contract shall be new, unused of the latest product in production to commercial trade and shall be of the highest quality as to materials used and workmanship. The manufacturer furnishing these items shall be experienced in design and construction of such items and shall be an established supplier of the item needed in the RFB. Substitute items will not be accepted unless approved (in advance).

**SUPPLEMENTAL MATERIALS:** Bidders are responsible for including all pertinent product data in the returned RFB package. Literature, brochures, data sheets, specification information, completed forms requested as part of the — RFB package and any other facts which may affect the evaluation and subsequent contract award should be included. Materials such as legal documents and contractual agreements, which the Bidder wishes to include as a condition of an RFB response, must also be in the returned in the RFB response package. Failure to include all necessary and proper supplemental materials may be cause to reject the Bidder's entire RFB.

**TITLE TRANSFER:** Title and Risk of Loss of goods shall not pass to Cameron County until Cameron County actually receives and takes possession of the goods at the point or points of delivery. Receiving times may vary with the using department. Generally, deliveries may be made between 8:30 a.m. and 4:00 p.m., Monday through Friday. Bidders are advised to consult the using department for instructions. The place of delivery shall be shown under the "Special Requirements/Instructions" section of this RFB package and/or on the Purchase Order as a "Deliver To:" with the address.

**USAGE REPORTS:** Cameron County reserves the right to request, and receive at no additional cost up to two (2) times during the contract period, a usage report detailing the products and/or services furnished to date under a contract resulting from this RFB. The reports must be furnished no later than five (5) working days after written request and itemize all purchases to date by Cameron County department with a description, of each item purchased, including the manufacturer, quantity of each item purchased, the per unit and extended price of each item purchased, and the total amount and price of all items purchased.

**WARRANTY PRICE:** (a) The price to be paid by the County shall be that contained in Bidder's response to the RFB which Bidder warrants to be no higher than Bidder's current prices on orders by others for products of the kind and specification covered by this agreement for similar quantities under similar or like conditions and methods of purchase. In the event Bidder breaches this warranty, the prices of the items shall be reduced to the Bidder's current prices on orders by others, or in the alternative, County may cancel this contract without liability to Bidder for breach or Bidder's actual expense.

(b) The Bidder warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees of bona fide established commercial or selling agencies maintained by the Bidder for the purpose of securing business. For breach or violation of this warranty, the County shall have the right in addition to any other right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

Bidders shall furnish all data pertinent to warranties or guarantees which may apply to items in the RFB.

Bidders may not limit or exclude any implied warranties.

Bidder warrants that products sold and services provided to the County shall conform to the highest commercial and/or professional standards in the industry and laws established by the U.S. Department of Labor, U.S. Department of Homeland Security, Occupational Safety and Health Administration and O.S.H.A. Act of 1970. In the event any product does not conform to OSHA Standards, where applicable, Cameron County may return the product for correction or replacement at the Bidder's expense. If Bidder fails to make the appropriate correction within a reasonable time, Cameron County may correct at the Bidder's expense.

**WARRANTY ITEMS/PRODUCTS:** Bidder warrants that products sold and services provided to the County shall conform to the highest commercial and/or professional standards in the industry and laws established by the U.S. Department of Labor, U.S. Department of Homeland Security, Occupational Safety and Health Administration and O.S.H.A. Act of 1970. In the event product does not conform to OSHA Standards, where applicable, Cameron County may return the product for correction or replacement at the Bidder's expense. If Bidder fails to make the appropriate correction within a reasonable time, Cameron County may correct at the Bidder's expense.

Bidder shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the County.

Bidder warrants that the goods furnished will conform to the specifications, drawings and descriptions listed in the RFB invitation and to the sample(s) furnished by Bidder, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern. All items must be new, in first class condition, unless otherwise specified. The design, strength, and quality of materials must conform to the highest standards of manufacturing practice.

Items supplied under this contract shall be subject to the County's approval. Successful Bidder shall warrant that all items/services shall conform to the proposed specifications and/or all warranties as stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title. Any items found defective or not meeting specifications shall be picked up and promptly replaced by the successful Bidder at no expense to the County.

**SAFETY WARRANTY:** As noted above, Bidder warrants that the products sold to County shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event the product does not conform to OSHA standards, County may return the product for correction or replacement at the Bidder's expense. In the event Bidder fails to make the appropriate correction within a reasonable time, correction made by County will be at Bidder's expense. Have you attached the required warranty information to the RFB (if applicable)? "Yes" or "No"

**APPLICABLE LAW**

To the extent it is applicable, this agreement shall be governed by the Uniform Commercial Code. Wherever the term "Uniform Commercial Code" is used, it shall be construed as meaning "the Uniform Commercial Code" as adopted in the State of Texas as effective and in force on the date of this agreement. Otherwise, Texas state and federal law shall apply.

**ASSIGNMENT DELEGATION:** No right, obligation or interest in this contract shall be assigned or delegated to another by Bidder without the written permission of the County. Any attempted assignment or delegation by Bidder shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.

**CONTRACT OBLIGATION:** Cameron County Commissioners Court must award any resulting contract and the County Judge or other person authorized by the Cameron County Commissioners Court must sign the contract before it becomes binding on Cameron County or the Bidder. Department Heads are NOT authorized to sign agreements for Cameron County. Binding agreements shall remain in effect until all products and/or services covered by this RFB have been delivered and accepted and all contract requirements have been satisfied

**ERRORS AND OMISSIONS:** Errors and Omissions in the RFB or any provision herein described will not be construed as to relieve the Bidder of any responsibility or obligation requisite to the complete and satisfactory implementation, operation, and support of all obligations under any resulting contract.

**FORCE MAJEURE:** If, by reason of Force Majeure, either party hereto shall be rendered unable wholly, or in part, to carry out its obligations under this RFB and any resulting contract, then such party shall give notice and full particulars of Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term "Force Majeure" as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemy, orders of any kind of government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightening, earthquakes, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals, or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely with the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.

**HOLD HARMLESS AGREEMENT:** The successful Bidder, shall indemnify and hold Cameron County harmless from all claims for personal injury, death and/or property damage resulting directly or indirectly from Bidder's performance. Bidder shall procure and maintain, with respect to the subject matter of this RFB, appropriate insurance coverage including, as a minimum, public liability and property damage with adequate limits to cover Bidder's liability as may arise directly or indirectly from work performed and goods or services sold and under the terms of this RFB. Certification of such coverage must be provided to the County upon request.

**INFRINGEMENTS:** There will be no warranty by County against infringements. As part of this contract for sales, Bidder agrees to ascertain whether goods manufactured in accordance with the specifications attached to this agreement will give rise to the rightful claim of any third person by way of infringement or the like. County makes no warranty that the production of goods according to the specification will not give rise to such a claim, and in no event shall County be liable to Bidder for indemnification in the event Bidder gets sued on the grounds of infringement or the like. If Bidder is of the opinion that an infringement or the like will result, Bidder shall notify County to that effect in writing within two (2) weeks after the signing of this agreement. If County does not receive notice and is subsequently held liable for the infringement or the like, Bidder will hold County harmless. If Bidder in good faith ascertains that production of the goods in accordance with the specifications will result in infringement or the like, this contract shall be null and void, except that County will pay Bidder the reasonable cost of Bidder's search as to infringement. The Bidder agrees to protect the County from claims involving infringement of patents or copyrights.

**INDEMNIFICATION**

BIDDER covenants and agrees to FULLY INDEMNIFY, DEFEND and HOLD HARMLESS, the County and the elected officials, employees, officers, directors, volunteers and representatives of the County, individually and collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death and property damage, made upon the County directly or indirectly arising out of, resulting from or related to BIDDER'S activities under this contract, including any acts or omissions of BIDDER, any agent, officer, director, representative, employee, consultant or subcontractor of BIDDER, and their respective officers, agents employees, directors and representatives while in the exercise of the rights or performance of the duties under this contract. The indemnity provided for in this paragraph shall not apply to any liability resulting from the negligence of County, its officers or employees, in instances where such negligence causes personal injury, death, or property damage. IN THE EVENT BIDDER AND COUNTY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL

BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE COUNTY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

The provisions of this INDEMNITY are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity. BIDDER shall advise the County in writing within 24 hours of any claim or demand against the County or BIDDER known to BIDDER related to or arising out of BIDDER's activities under this contract and shall see to the investigation and defense of such claim or demand at BIDDER's cost. The County shall have the right, at its option and at its own expense, to participate in such defense without relieving BIDDER of any of its obligations under this paragraph.

**INTERPRETATION PAROLE EVIDENCE:** Unless a separate contract or addendum hereof is prepared and entered into following the award of this RFB to a successful bidder, this writing is intended by the parties as a final expression of the terms of this RFB and the general terms of any resulting contract. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term. Acceptance or acquiescence in a course of performance rendered under this RFB and any resulting contract shall not be relevant to determine meaning even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control, if applicable.

**LATE RESPONSES:** RFB responses must be received by the County before the hour and date specified. Responses received after the time and date specified will be disqualified and may be returned to sender. The County is not responsible for lateness or non-delivery of mail, delivered to wrong office, carrier, etc.

**MODIFICATIONS:** This contract can be modified or rescinded only by a writing signed by both of the parties or their duly authorized agents.

**O.S.H.A:** Bidder must meet all Federal and State OSHA requirements.

**REMEDIES:** The successful Bidder and County agree that both parties have all rights, duties, defenses and remedies available under law.

**RIGHT TO ASSURANCE:** During the RFB process and any resulting contract, whenever a Bidder or the County in good faith has reason to question the other's intent to perform, demand may be made that the other party give written assurance of intent. In the event that a demand is made and no assurance is given within five (5) days, such failure may be treated as an anticipatory repudiation of the RFB and any resulting contract.

**SEVERABILITY:** If any section, subsection, paragraph, sentence, clause, phrase or word of these requirements or the specifications shall be held invalid, such holding shall not affect the remaining portions of these requirements and the specifications and it is hereby declared that such remaining portions would have been included in these requirements and the specifications as though the invalid portion had been omitted.

**VENUE:** Both parties agree that venue for any litigation arising from this contract shall lie in Cameron County, Texas.

**BIDDER SHALL CONFIRM ACCEPTANCE OF RFB TERMS:** The Bidder shall specifically state acceptance of these terms and conditions as a basis for providing the County with a response to this RFB.

**THESE TERMS INCORPORATED:** These General Terms and Conditions shall be incorporated in the response to the RFB and any resulting contract. The Bidder shall specifically state acceptance of these terms and conditions as a basis for providing the County with a response to this RFB.

**OTHER TERMS:** The Bidder shall state any exceptions desired to these terms and conditions and may suggest alternate wording that addresses the intent of the term or condition. The County may accept or reject any suggestions in accordance with law.



## CAMERON COUNTY

### INVITATION

Cameron County is requesting bids/proposals/qualifications for the following, which should BE REFERENCED ON ENVELOPE, "ATTN: COMMISSIONERS COURT - SEALED BID/PROPOSAL:  
DEADLINE – **3:00 P.M.**

**02/11/26 BID #260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS -  
WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD)  
TXCDBG PROJECT No. CFC24-0004**

*A = Annual Q = Quarterly B = Bid RFP = Proposal RFQ = Qualifications*

Detailed specifications are available from Dalia Loera at [956/544-0871](tel:9565440871) of the County Purchasing Department or website – Bids & Specs. Tab <https://www.cameroncountytexas.gov/purchasing-bids-rfpq-addms-tabs/>

Your sealed submittals should contain the REFERENCE “ATTN: COMMISSIONERS COURT – SEALED BID/PROPOSAL/REQUEST FOR QUALIFICATIONS ON THE OUTSIDE OF YOUR RETURN ENVELOPE and addressed and sent to the County Purchasing Department - **Cameron County Courthouse, (Dancy Building) 1100 E. Monroe St., Basement Floor, Room # B17, Brownsville, TX. 78520.** Properly referenced and returned Bids/ RFP’s / RFQ’s will be opened at the Cameron County Courthouse, 1100 East Monroe Street, Brownsville, Texas in the Purchasing Department – Basement Floor – Room #B17 at 3:00 p.m. (as per Purchasing Dept. time clock) on deadline date. Bidders are invited to attend. Cameron County is an Equal Employment Opportunity Employer and expressly reserves the right to accept or reject any and all submittals and may waive formalities.

**TO APPEAR: January 17, 2026**

Brownsville Herald - **P.O. #**

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT No. CFC24-0004**

BID PROPOSAL FORM  
(GENERAL CONTRACT)

Project: **BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT No. CFC24-0004**

Place: Cameron County Purchasing Department, 1100 E. Monroe Street, Basement Floor, Room # B17, Attention: Mr. Roberto C. Luna, Purchasing Agent

Due Date: **February 11<sup>th</sup>, 2026**

Time: Before 3:00 p.m. C.S.T.

- Pursuant to and in compliance with the Invitation to Bid and the proposed Contract Documents, prepared by **The Brownsville Public Utilities of Brownsville, Tx. 78521** AND **Cameron County** relating to the above referenced project, the undersigned, having become thoroughly familiar with the terms and conditions of the proposed Contract Documents and with local conditions affecting the performance and costs of the work at the place where the work is to be completed, and having fully inspected the site in all particulars, hereby proposes and agrees to fully perform the work within the time stated and in strict accordance with the proposed Contract Documents, and addenda, thereto, including furnishing of any and all labor and materials for all roofing, for the following sum of money:

A: **BASE BID**:

All labor, materials, services and equipment, necessary for completion of the work shown on the drawings and described in the specifications.

**BASE BID**

Item No.	Item	Qty.	Unit	Unit Price	Cost
<b>Salida Del Sol</b>					
1	On-Side Single Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	10	EA		
2	Off-Side Single Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	19	EA		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

3	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	29	EA		
4	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	2503	LF		
5	8-inch Sanitary Sewer Line Under CMU Fence (Bore) (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	100	LF		
6	8-inch Sanitary Sewer Between Guy/Wire & Powerpole (Bore) (If Needed) (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	20	LF		
7	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	6	EA		
8	Exist. Septic Tank To Be Abandoned	29	EA		
9	Tie-in To Existing 8" Sanitary Sewer Stub Out	1	EA		
10	Remove and Relocate Existing Tree	2	EA		
11	Remove and Repair Asphalt Driveway (Inc'l Saw Cutting)	40	SF		
12	Remove and Repair Concrete Driveway	160	SF		
13	Remove and Repair Dirt Driveway	200	SF		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

14	Remove and Repair Caliche Driveway	500	SF		
15	Trench Safety Plan	1	EA		
16	Trench Safety Implementation	2513	LF		
<b>SUB TOTAL</b>					

<b>Private Drive I</b>					
17	Single Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	5	EA		
18	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	5	EA		
19	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	348	LF		
20	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	2	EA		
21	Exist. Septic Tank To Be Abandoned	5	EA		
22	Remove and Repair of Caliche Drive (Material & Labor)	1740	SF		
23	Remove and Repair of Caliche Drive Entrance (Material & Labor)	40	SF		
24	Trench Safety Plan	1	EA		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

25	Trench Safety Implementation	357	LF		
			<b>SUB-TOTAL</b>		
<b>Private Drive II</b>					
26	Single Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	3	EA		
27	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	3	EA		
28	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	330	LF		
29	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	2	EA		
30	Exist. Septic Tank To Be Abandoned	3	EA		
31	Remove and Repair of Caliche Drive (Material & Labor)	1120	SF		
32	Remove and Repair of Concrete Drive (Material & Labor)	550	SF		
33	Remove and Repair of Caliche Drive Entrance (Material & Labor)	40	SF		
34	Trench Safety Plan	1	EA		
35	Trench Safety Implementation	340	LF		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

<b>SUB TOTAL</b>		
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<b>Private Drive III</b>					
36	Single Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	4	EA		
37	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	4	EA		
38	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	475	LF		
39	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	3	EA		
40	Exist. Septic Tank To Be Abandoned	4	EA		
41	Remove and Repair of Caliche Drive (Material & Labor)	140	SF		
42	Remove and Repair of Asphalt Drive (Material & Labor)	2250	SF		
43	Remove and Repair of Asphalt Drive Entrance (Material & Labor)	40	SF		
44	Trench Safety Plan	1	EA		
45	Trench Safety Implementation	485	LF		
<b>SUB</b>					

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

				<b>TOTAL</b>		
<b>Private Drive IV</b>						
46	Single Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	9	EA			
47	Single Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	2	EA			
48	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	11	EA			
49	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	1705	LF			
50	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	7	EA			
51	Exist. Septic Tank To Be Abandoned	11	EA			
52	Remove and Repair of Caliche Drive (Material & Labor)	2450	SF			
53	Remove and Repair of Asphalt Drive Entrance (Material & Labor)	450	SF			
54	Trench Safety Plan	1	EA			
55	Trench Safety Implementation	573	LF			

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

				<b>SUB TOTAL</b>		
<b>N. Central Ave.</b>						
56	Off-Side Single Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	12	EA			
57	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	12	EA			
58	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	594	LF			
59	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	1	EA			
60	Exist. Septic Tank To Be Abandoned	12	EA			
61	Remove and Repair of Asphalt Drive (Material & Labor)	362	SF			
62	Tie-in Proposed 8" Sanitary Sewer Line to Existing Sanitary Sewer Manhole	1	EA			
63	Trench Safety Plan	1	EA			
64	Trench Safety Implementation	604	LF			
				<b>SUB TOTAL</b>		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

<b>Michelle Road</b>					
65	On-Side Single Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	10	EA		
66	Off-Side Single Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	10	EA		
67	Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts) Connection complete to Residence	20	EA		
68	8-inch PVC Sanitary Sewer Line (6 - 10 Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	1225	LF		
69	Standard 4-Foot Fiberglass Manhole (6 - 10-Foot Depth) (incl. traffic control, dewatering, bypass pumping, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	5	EA		
70	Exist. Septic Tank To Be Abandoned	20	EA		
71	Remove and Repair Concrete Sidewalk	680	SF		
72	Remove and Repair Concrete Driveway	1890	SF		
73	Remove and Repair Dirt Driveway	104	SF		
74	Remove and Relocate Existing Mailbox	6	EA		
75	Remove and Repair (Relocate if possible) Brick Mailbox w/planter on each side	2	EA		
76	Remove and Repair Caliche Driveway	132	SF		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

77	Trench Safety Plan	1	EA		
78	Trench Safety Implementation	1235	LF		
				<b>SUB TOTAL</b>	
				<b>TOTAL BASE BID:</b>	

**TOTAL BASE BID AMOUNT**

**(ITEMS**

**1-78):** \_\_\_\_\_

(written in words)

BID # 260103 Central Estates-Saldivar Colonias in Brownsville Tx. Water-Sewer-Line Improvement Construction (HUD) TXCDBG Project No. CFC24-004

**B: ALTERNATE BID:**

All labor, materials, services and equipment, necessary for completion of the work shown on the drawings and described in the specifications.

**ALTERNATE BID**

Item No.	Item	Qty.	Unit	Unit Price	Cost
<b>Salida Del Sol</b>					
1.A	On-Side Double Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	2	EA		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

2.A	Off-Side Double Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	6	EA		
<b>Private Drive I</b>					
17.A	Double Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	1	EA		
18.A	6" Long Yard Line Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts)	348	LF		
<b>Private Drive II</b>					
27.A	6" Long Yard Line Service Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts)	331	LF		
<b>Private Drive III</b>					
37.A	6" Long Yard Line Service Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts)	475	LF		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

<b>Private Drive IV</b>					
48.A	6" Long Yard Line Service Connection (incl. dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, backfill, and all appurtenances necessary to complete the work, cleanouts at every service connection to the house & a max separation of 150 feet between cleanouts)	1705	LF		
<b>N Central Ave.</b>					
56.A	Off-Side Double Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	5	EA		
<b>Michelle Road</b>					
65.A	On-Side Double Short Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	4	EA		
66.A	Off-Side Double Long Sanitary Sewer Service (incl. traffic control, dewatering, excavation, removal, disposal & replacement of paving materials, sidewalks, driveways, curb & gutter backfill, and all appurtenances necessary to complete the work)	4	EA		

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT No. CFC24-0004**

The Bidder proposes to use the following Contractors, Subcontractors, Manufacturers, Products, Material Suppliers and Equipment Suppliers for the principal portions of the work.

NAME(S) OF SUB-CONTRACTORS:

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NAME(S) OF EQUIPMENT SUPPLIERS:

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NAME(S) OF BAS CONTRACTORS:

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OTHER:

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2. If awarded this Contract the undersigned will execute a satisfactory Construction Contract, Performance Bond, Labor and Material Payment Bond and proof of insurance coverage, with the Owner for the entire work as per the Contract Documents within ten (10) days after notice of award. It is agreed that this proposal is subjected to the Owner's acceptance for a period of Ninety (90) days from the above date.
3. Contractor shall be substantially completed by dates shown below. No time extension will be allowed.

**SUBSTANTIAL COMPLETION DATE** for the project in its entirety:

Number of days for substantial completion: \_\_\_\_\_

4. Project Deadlines and Penalties: This provision shall be enforced, except in the event of inclement weather, unnecessary delay caused by OWNER or his agent, or other natural disaster or Act of God beyond Contractor's control.

- (a) OFFEROR agrees that the project shall achieve **Substantial and Final Completion as noted on Proposal Form**. In the event of failure to complete work on time, OFFEROR agrees to pay penalties in the amount of **\$750 per day** until system is installed and operational.
- (b) Offeror agrees that the project shall achieve **Final Completion within 30 days after Substantial Completion**. In the event of failure to achieve Final Completion, OFFEROR agrees to pay penalties in the amount of **\$500 per day between day 31 and day 60 after Substantial Completion**.
- (c) In the event of failure to achieve Final Completion, the Offeror agrees to pay penalties in the amount **of \$500 per day beyond day 60 after Substantial Completion**.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT No. CFC24-0004**

5. Enclosed is a Certified Check or Bidders Bond in the amount of \$ \_\_\_\_\_ compliance with the specification requirements. (5% of the highest amount bid).

The above check or Bidders Bond is to become the property of the Owner in the event the Construction Contract (when offered by the Owner) and the bonds and proof of insurance coverage are not executed within the time set forth above.

6. The undersigned agrees to the following:
- A. To furnish all materials as shown and specified in the plans and specifications.
  - B. To start work within ten (10) days after notice to proceed.
  - C. To work a minimum of 5 working days per week.
7. The full amount of all allowances as specified in the General Requirements and covenants (items 1L-9L), of the specifications, in the Base Proposal price shown.7. Receipt is acknowledged of the following addenda:

No. \_\_\_\_\_ Dated \_\_\_\_\_ No. \_\_\_\_\_ Dated \_\_\_\_\_  
No. \_\_\_\_\_ Dated \_\_\_\_\_ No. \_\_\_\_\_ Dated \_\_\_\_\_

8. Bidder agrees that the Owner has the right to accept or reject any or all bids and to waive all informalities.

Respectfully submitted,

By: \_\_\_\_\_ Date \_\_\_\_\_  
Signature

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

(Seal - if Bidder is a corporation)

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, \_\_\_\_\_ as PRINCIPAL, AND \_\_\_\_\_, as SURETY are held and firmly bound unto **CAMERON COUNTY** hereinafter called the OWNER \_\_\_\_\_ Dollars, (\$ \_\_\_\_\_) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that Whereas the Principal has submitted the Accompanying Bid, Dated \_\_\_\_\_, 20\_\_\_\_, for\_\_\_\_\_.

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or if no period be specified, within thirty (30) days after the said opening, and shall within the period specified therefore, or if no period be specified, within then (10) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Local Public Agency in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said Bid and the amount for which the Owner may procure the required work of supplies or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise, to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this \_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, the name and corporate seal of each corporate party being here to affixed and these present signed by its undersigned representative, pursuant to authority of its governing body.

\_\_\_\_\_ (SEAL)

\_\_\_\_\_ (SEAL)

\_\_\_\_\_ (SEAL)

ATTEST:

BY:  
\_\_\_\_\_

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

BY: \_\_\_\_\_

Affix  
Corporate Seal

ATTEST:

BY:

BY:

Affix Corporate Seal

Countersigned

BY:

Attorney-in-Fact, State of

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the \_\_\_\_\_, Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_, who signed the said bond on behalf of the Principal was then \_\_\_\_\_ of said corporation; that I know his signature, and his signature there to is genuine; and that said bond was duly signed, and attested to for and in behalf of said corporation by authority of this governing body.

\_\_\_\_\_  
Title

(Corporate Seal)

Power-of-Attorney for person signing for surety company must be attached to bond.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENT: that:

\_\_\_\_\_  
(Name of Contractor or Company)

\_\_\_\_\_  
(Address)

a \_\_\_\_\_  
(Corporation/Partnership)

hereinafter called Principal, and

\_\_\_\_\_  
(Name of Surety Company)

\_\_\_\_\_  
(Address)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Recipient)

hereinafter called SURETY, are held and firmly bound unto CAMERON COUNTY, hereinafter called OWNER, in the penal sum of \$ \_\_\_\_\_ dollars and \_\_\_\_\_ cents in lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, successors, and assigns, jointly and severally, firmly in these presents.

THE CONDITION OF THE OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER dated the \_\_\_\_\_ day of \_\_\_\_\_, 20, a copy of which is hereto attached and made a part hereof for the construction of:

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

NOW THEREFORE , if the Principal shall promptly make payment to all persons, firms, SUB-CONTRACTORS, and corporation furnishing materials or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUB-CONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or the WORK to be performed or the SPECIFICATIONS accompanying the same in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the SPECIFICATIONS

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions in Chapter 2253, Public Work Performance and Payment Bonds, of Texas Government Code, Title 10, General Government, Subtitle F, State and Local Contracts and Fund Management.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ parts, one of which shall be deemed an original, this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_. (NUMBER)

\_\_\_\_\_  
(PRINCIPAL)

ATTEST:

\_\_\_\_\_  
(Principal Secretary)

BY \_\_\_\_\_(s)

(SEAL)

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

ATTEST:

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Attorney in Fact)

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

BY

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENT: that

\_\_\_\_\_  
(Name of Contractor or Company)

\_\_\_\_\_  
(Address)

a \_\_\_\_\_  
(Corporation/Partnership)

hereinafter called Principal, and

\_\_\_\_\_  
(Name of Surety Company)

\_\_\_\_\_  
(Address)

hereinafter called Surety, are held and firmly bound unto CAMERON COUNTY, hereinafter called OWNER, in the penal sum of \$\_\_\_\_\_dollars \$\_\_\_\_\_ cents in lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, successors, and assigns, jointly and severally, firmly in these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER dated the \_\_\_\_\_day of \_\_\_\_\_, 202\_\_, a copy of which is hereto attached and made a part hereof for the construction of:

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

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

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same in any way accompanying the same in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions in Chapter 2253, Public Work Performance and Payment Bonds, of Texas Government Code, Title 10, General Government, Subtitle F, State and Local Contracts and Fund Management.

IN WITNESS WHEREOF, this instrument is executed in 4 parts, one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_. (NUMBER)

\_\_\_\_\_  
(Principal)

ATTEST:

\_\_\_\_\_  
(Principal Secretary)

BY: \_\_\_\_\_ (s)

\_\_\_\_\_  
(Witness as to Principal)

(SEAL)

\_\_\_\_\_  
(Address)

ATTEST:

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Attorney in Fact)

By

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**STATEMENT OF BIDDERS QUALIFICATIONS**

All questions must be answered and the data given must be clear and comprehensive. **This statement must be notarized.** If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

Date: \_\_\_\_\_

Bidder (Legal Name of Firm): \_\_\_\_\_

Date Organized: \_\_\_\_\_

Address : \_\_\_\_\_

: \_\_\_\_\_

Date Incorporated \_\_\_\_\_

Federal ID Number: \_\_\_\_\_

Number of Years in contracting business under present name \_\_\_\_\_

List all other names under which your business has operated in the last 10 years:

\_\_\_\_\_  
\_\_\_\_\_

**Work Presently Under Contract:**

Contract	Amount \$	Completion Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

Type of work performed by your company: \_\_\_\_\_

Total Staff employed by Firm (Break down by Managers and Trades on separate sheet):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Have you ever failed to complete any work awarded to you?  Yes  No  
(If yes, please attach summary of details on a separate sheet. Include brief explanation of cause and resolution)

Have you ever defaulted on a contract?  Yes  No  
(If yes, please attach summary of details on a separate sheet.)

Has your organization had any disbarments or suspensions that have been imposed in the past five years or that was still in effect during the five year period or is still in effect?  Yes  No

(If yes, list and explain; such list must include disbarments and suspensions of officers, principals, partners, members, and employees of your organization.)

List the projects most recently completed by your firm (include project of similar importance):

Project	Amount \$	Mo/Yr Completed
_____		
_____		
_____		

Major equipment available for this contract: \_\_\_\_\_  
\_\_\_\_\_

Are you in compliance with all applicable EEO requirements?  Yes  No  
(If no, please attach summary of details on a separate sheet.)

Bank References

Address: \_\_\_\_\_ Contact Name: \_\_\_\_\_

City & State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Credit available: \$ \_\_\_\_\_

Has the firm or predecessor firm been involved in a bankruptcy or reorganization?  Yes  No  
(If yes, please attach summary of details on a separate sheet.)

List on a sheet attached hereto all judgements, claims, arbitration proceedings, or suits pending or outstanding against bidder over the last five (5) years with amount of claim and brief description.

List on a sheet attached hereto all lawsuits or requested arbitration with regard to construction contracts which bidder has initiated within the last five (5) years and brief explanation of claim and outcome.

Attach resume(s) for the principal member(s) of your organization, including the officers as well as the proposed superintendent for the project.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name and Title

\_\_\_\_\_  
Company Name

**Notary Statement:**

\_\_\_\_\_, being duly sworn, says that he/she is the \_\_\_\_\_ Position/Title \_\_\_\_\_ of \_\_\_\_\_ (Firm Name), and hereby swears that the answers to the foregoing questions and all statements therein contained are true and correct. He/she hereby authorizes and requests any person, firm, or corporation to furnish any information requested City/County of \_\_\_\_\_ in verification of the recitals comprising this Statement of Bidder's Qualifications.

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Notary Public

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

My Commission Expires: \_\_\_\_\_,

The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**LIST OF SUBCONTRACTORS**

To be submitted in a separate envelope with the Bid Proposal

Owner's Project: **BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

To: Cameron County

The undersigned submit the following names of subcontractors to be used in performing the Contract. Each subcontractor is required to submit a standard AIA Qualification Statement clearly indicating prior historical restoration project experience and references.

**SUBCONTRACTORS**

- 1. Site Work and Paving \_\_\_\_\_
- 2. Concrete \_\_\_\_\_
- 3. Masonry \_\_\_\_\_
- 4. Finish Carpentry \_\_\_\_\_
- 5. Excavation \_\_\_\_\_
- 6. Utility \_\_\_\_\_
- 7. Traffic Control \_\_\_\_\_
- 8. Plumbing \_\_\_\_\_
- 9. Electrical \_\_\_\_\_
- 10. Environmental \_\_\_\_\_
- 11. Other \_\_\_\_\_

All Qualification Statements will be reviewed by the Engineer/Architect, who will make appropriate recommendations to the Owner.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**SPECIAL INSURANCE CONDITIONS OF THE AGREEMENT**

The following minimum limits of insurance coverage will be required:

**CONTRACTOR** shall maintain, at his sole cost, at all times while performing work hereunder, the insurance coverage set forth below with companies satisfactory to the Company with full policy limits applying but not less than as stated. A Certificate evidencing the required insurance and specifically quitting the indemnification provision set forth in this agreement shall be delivered to the Company prior to commencement of the work and shall provide that any change restricting or reducing coverage or the cancellation of any policies under which certificates are issued shall not be valid as respects the Company's interest therein until the Company has received 30 days' notice in writing of such change or cancellation.

- (1) **Workman's Compensation Insurance** as required by laws and regulations applicable to and covering employees of **CONTRACTOR** engaged in the performance of the work under this agreement.
- (2) **Employer's Liability Insurance** protecting **CONTRACTOR** against common law liability, in the absence of statutory liability, for employee bodily injury arising out of the master/servant relationship with a limit of not less than \$100,000.
- (3) **Comprehensive General Liability Insurance** including products/completed operation with limits of liability of not less than: Bodily Injury \$500,000. each Person, \$500,000. each occurrence/aggregate; Property Damage \$500,000. each occurrence/aggregate. OR Combined Coverage limit \$5,000,000.
- (4) **Automobile Liability Insurance** including non-owned and hired vehicle coverage with limits of liability of not less than: Bodily Injury \$250,000. each Person, \$500,000. each occurrence; Property Damage \$250,000. each occurrence.
- (5) **Excess Liability Insurance** Comprehensive General Liability, Comprehensive Automobile Liability and coverage afforded by the policies described above, with minimum limits of \$500,000. excess of the specified limits.
- (6) **Builder's "All-Risk Insurance"** protecting the respective interest of Company and **CONTRACTOR** and its "Field Sub-contractors" covering loss or damage during the course of construction of the project described in this agreement and all property at the job site or in transit thereof which shall become a part of such project. Such insurance shall be maintained until such project is completed and accepted. This insurance shall be terminated with respect to portions of such project when such portions are completed and accepted.

**A RESOLUTION IN SUPPORT OF MAINTAINING A HIGHER MINIMUM WAGE REQUIREMENT FOR ALL CONTRACTORS DOING WORK FOR CAMERON COUNTY.**

**Whereas**, Cameron County, Texas, has in recent years shown unprecedented growth and experienced increasing cost of living expenses; and

**Whereas**, there exists within Cameron County, and particularly among the elected officials, a desire to improve the living conditions and income potential of the members of the local work force; and

**Whereas**, the Cameron County Commissioners' Court desires to provide an opportunity for an increase in the standard of living for employees in our area; and

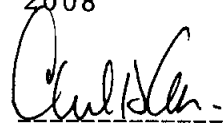
**Whereas**, the Cameron County Commissioners' Court desires to continue awarding contracts to contractors who support their workers;

Cameron County Commissioners' Court does hereby pass this resolution to demonstrate support for an increase in the minimum wage of all workers employed by the contractors doing work for the County of Cameron;

Now therefore, the Cameron County Commissioners' Court hereby resolves to establish a minimum wage requirement for all contractors bidding on and being awarded contracts for goods or services to be provided to the County of Cameron,

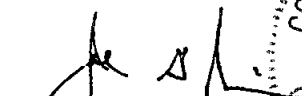
**THEREFORE, UPON THE PASSAGE OF THIS RESOLUTION, IT IS HEREBY DECREED, ORDAINED AND RESOLVED** that the County of Cameron, Texas will require that all prime and subcontractor contracts explicitly include a minimum wage of \$8.50 per hour for all full time and part time employees hired by prime and subcontractors who bid for and perform all types of contractual work for the County.

Done on this the 16th day of December, 2008



Carlos Cascos  
County Judge

Attested by:

  
Joe G. Rivera, County Clerk



**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**INSTRUCTIONS TO BIDDERS  
(Special Provisions)**

1. **It shall be the bidder's responsibility to ensure delivery of his proposal to the proper place and at the proper time.**
2. **Bids shall be addressed as follows:**

SEALED BID FOR: **BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

Attn: Roberto C. Luna, CPM, CTCD, CTCM  
Purchasing Agent  
Cameron County Courthouse, Purchasing Dept, Basement Floor,  
Suite # B17, 1100 E. Monroe Street  
Brownsville, TX 78520

Bid Date: **February 11<sup>th</sup>, 2026**  
Time: 3:00 P.M. C.S.T.

3. **Use of Separate Bid Forms:**

These Contract Documents include a complete set of bidding and Contract forms which are for the convenience of bidders and are not to be detached from the Contract Document, filled out, or executed. Separate copies of Bid Forms are furnished for that purpose.

4. **Interpretations of Addenda:**

No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing to the County Engineer. Any inquiry received seven or more days prior to the date fixed for opening of Bids will be given consideration. Every interpretation made to a Bidder will be in the form of an Addendum to the Contract Documents, and when issued, will be on file in the office of the Engineer at least three days before Bids are opened. In addition, all Addenda will be mailed or telecopied to each person holding contract Documents, but it shall be the Bidder's responsibility to inquire as to the Addenda issued. All such Addenda shall become part of the Contract, and all Bidders shall be bound by such Addenda, whether or not received by the Bidders.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**5. Inspection of Site:**

Each Bidder should visit the site of the proposed work and fully acquaint himself with the existing conditions there, relating to construction and labor, and should fully inform himself as to the facilities involved, the difficulties and restrictions attending the performance of the Contract. The Bidder should thoroughly examine and familiarize himself with the Drawings, Technical Specifications, and all other Contract documents.

The Contractor by the execution of the Contract shall in no way be relieved of any obligation under it, due to his failure to receive or examine any form or legal instrument or to visit the site and acquaint himself with the conditions there existing, and the Owner will be justified in rejecting any claim based on facts regarding which the Contractor should have been on notice as a result thereof.

**6. Alternative Bids:**

No alternative bids will be considered unless alternative bids are specifically requested by the technical specifications or bid proposal package. Base bids must be provided for each item, even though an alternative bid item is also specified.

**7. Bids:**

- A. All Bids must be submitted on forms supplied by the Owner and shall be subject to all requirements of the Contract Documents including the Drawings, and these INSTRUCTIONS TO BIDDERS. All Bids must be regular in every respect and no interlineation, excisions or special conditions shall be made or included in the Bid Form by the Bidder.
- B. Bid Documents including the Bid, the Bid Guaranty, the Non-Collusion Affidavit and the Statement of Bidder's Qualifications (If required) shall be enclosed in an envelope, which shall be sealed and clearly labeled with the words "Bid Documents", name of Bidder, date and time of the Bid opening in order to guard against premature opening of the Bid.
- C. The Owner may consider as irregular any Bid on which there is an alteration to or departure from the Bid Form hereto attached and at its option may reject the same.
- D. If the contract is awarded, it will be awarded by the Owner to a responsible Bidder on the basis of the lowest Bid and the selected Alternative Bid items, if any. The Contract will require the completion of the work according to the Contract Documents.
- E. Each Bidder shall include in his Bid the following information:

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

Principals

Names

Social Security Number

Home Addresses, including City, State & Zip Code

Firm

Name

Treasury Number

Address

City, State & Zip Code

**8. Bid Guaranty:**

- A. The Bid must be accompanied by a Bid Guaranty which shall not be less than **5 percent (5%)** of the amount of the Bid. At the option of the Bidder, the guaranty may be a certified check, bank draft, negotiable U.S. Government Bonds (at par value), or a bid bond in the form attached. The Bid bond shall be secured by a guaranty, or a surety company Licensed to do business in the State of Texas. The amount of such Bid bond shall be within the maximum amount specified for such Company. No Bid will be considered unless it is accompanied by the required guaranty. Certified check or bank draft must be made payable to the order of County of Cameron. Cash deposits will not be accepted. The Bid guaranty shall insure the execution of the Agreement and the furnishing of the surety bond or bonds by the successful Bidder, all as required by the Contract documents.
- B. Revised Bids submitted before the opening of Bids, whether forwarded by mail or telegram, if representing an increase in excess of ten percent (10%) of the original Bid, the Bid will not be considered.
- C. Certified checks or bank drafts, or the amount thereof, Bid Bonds and negotiable U.S. Government bonds of unsuccessful Bidders will be returned as soon as practical after the opening of the Bids.

**9. Collusive Agreement:**

- A. Each Bidder submitting a Bid to the Owner for any portion of the work contemplated by the documents on which bidding is based shall execute and attach thereto, an affidavit substantially in the form herein provided, to the effect that he has not entered into a collusive agreement with any other person, firm, or corporation in regard to any Bid submitted.
- B. Before executing any subcontract, the successful Bidder shall submit the name of any proposed subcontractor for prior approval and an affidavit substantially in the form to be provided by the Owner. Copies are available upon request.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**10. Statement of Bidder's Qualifications:**

Each Bidder shall submit on the form furnished for that purpose a statement of the Bidder's qualifications, his experience records in organization and equipment available in the contract, his organization and equipment available for the work contemplated and, when specifically requested by the Owner, a detailed financial statement. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the Bidder to perform his obligations under the Contract and the Bidder shall furnish the owner all such information and data for this purpose as it may request.

The right is reserved to reject any Bid where an investigation of the available evidence or information does not satisfy the Owner that the Bidder is qualified to carry out properly the terms of the contract.

**11. Sub-Contractors:**

All Sub-Contractors must be approved by the Owner. A list of all proposed Sub-Contractors must be furnished to the Owner, prior to the start of construction.

**12. Interpretation of Quoted Prices:**

In case of difference in written words and figures in a Proposal, the amount stated in written words shall govern.

**13. Unit Prices:**

The unit price for each of the several items in the proposal of each Bidder shall include its pro rata share of overhead for both labor and materials so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price Bid represents the total Bid. Any Bid not conforming to this requirement may be rejected as informal. The special attention of all Bidders is called to this provision, for should conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities nor extra compensation allowed, provided the net monetary value of all such additive and subtractive changes in quantities of such items of work (i.e., difference in cost shall not increase or decrease the original contract award price by more than twenty-five percent (25%), except for work not covered in the Drawings and Technical Specifications.

**14. Rejection of Bids:**

Bids may be rejected if they show any alteration of works or figures, additions not called for, conditional or uncalled for alternate bids, incomplete bids, any alteration or words or figures, or erasures not initialed by the person or persons signing the proposal, or irregularities of any kind.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**15. Time for Receiving Bids:**

Bids received prior to the advertised hour of opening shall be kept securely sealed. The officer appointed to open the bids shall decide when the specified time has arrived and no bid received thereafter will be considered; except that when a bid arrives by mail after the time fixed for opening, but before the reading of all other bids is completed, and it is shown to the satisfaction of the County that the late arrival of the bid was solely due to delay in the mails for which the bidder was not responsible, such bid will be received and considered.

**16. Opening of Bids:**

The County shall, at the time and place fixed for the opening of bids, cause each bid to be publicly opened and read aloud, irrespective of any irregularities therein. Bidders and other interested individuals may be present.

**17. Withdrawal of Bids:**

Bids may be withdrawn on written or telegraphic request dispatched by the Bidder in time for delivery in the normal course of business to the time fixed for opening; provided, that written confirmation of any telegraphic withdrawal over the signature of the Bidder is placed in the mail and postmarked prior to the time set for Bid opening. The bid guaranty of any Bidder withdrawing his Bid in accordance with the foregoing conditions will be returned promptly.

**18. Award of Contract: Rejection of Bids**

- A. The Contract will be awarded to the responsible Bidder submitting the lowest responsive Bid complying with the conditions of the Invitation for Bids. The Bidder to whom the award is made will be notified at the earliest possible date. The Owner, however, reserves the right to reject any and all Bids and to waive any informality in Bids received whenever such rejection or waiver is in its interest.
- B. The Owner reserves the right to consider as unqualified to do work of general construction any Bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in this Contract.
- C. Time is of the essence in this Contract and the Owner may weigh the calendar days or working days bid in award of the Contract. The calendar days or working days will be valued equal to the liquidated damages charged per day of delay.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**19. Execution of Agreement: Performance and Payment Bond**

- A. Subsequent to the award and within ten (10) days after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver the Owner an Agreement in the form included in the Contract Documents in such number of copies as the Owner may require (not to exceed six (6) copies).
- B. Having satisfied all conditions of award as set forth elsewhere in these documents, the successful Bidder shall, within the period specified in paragraph "a" above, furnish a surety bond in a penal sum not less than the amount of the Contract as awarded, as security for the faithful performance of the Contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature including utility and transportation services, employed or used by him, in performing the work. Such bond shall be in the same form as that included in the Contract Documents and shall bear the same date as, or a date sub-sequent to that of the Agreement. The current **Power of Attorney** for the person who signs for any surety company and issued be attached to such bond. This bond shall be signed by a guaranty or surety company authorized to do business in the State of Texas.
- C. The failure of the successful Bidder to execute such Agreement and to supply the required bond or bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the Owner may grant, based upon reasons determined sufficient by the Owner, shall constitute a default, and the Owner may either award the Contract to the next lowest responsible Bidder or re-advertise for Bids, and may charge against the Bidder the difference between the amount of the Bid and the amount of which a Contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the Bid Bond. If a more favorable Bid is received by re-advertising, the defaulting bidder shall have no claim against the Local Public Agency for a refund.
- D. Full (100%) performance and payment bonds are required on all contracts in excess of \$25,000.00. The only exception is that if the contract is less than \$50,000.00, the entity may hold all payment, with no interim payments made, until final completion and presentation of lien releases from all subcontractors and suppliers, in lieu of the performance bond. Such bonds must be issued by a corporate surety authorized to do business in the State of Texas.

**20. This project will be awarded for construction in accordance with these specifications and upon approval by the Owner.**

**21. Insurance:**

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

See Special Conditions of the Agreement.

**22. Certificate of Insurance:**

The successful bidder will furnish a completed Certificate of Insurance with the executed contract. This Certificate of Insurance shall include all applicable policies and their numbers. These policies will cover all sub-contractors and the sub-contractors Certificate of Insurance will also be submitted covering the same amount stated above for the Contractor.

**23. In case of discrepancies or conflicts between the specifications, bid documents or contract documents, the following order of priority shall govern:**

1. Bid Documents
2. Instructions to Bidders
3. Special Instructions to Bidders
4. Supplemental General Conditions
5. Technical Specifications
6. Standard Form of Agreement
7. General Conditions of the Agreement
8. Special Conditions of the Agreement
9. Other Contract Documents

**24. The award of the low bid does not constitute award of a contract. A contract will be binding on both parties when executed by both parties and a purchase order is issued.**

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**GENERAL CONDITIONS OF THE AGREEMENT**

**Contract and Contract Documents**

The project to be constructed subject to all applicable Federal and State laws and regulations.

The Plans, Specifications, Supplemental Conditions (or Special Conditions), and Addenda shall form part of this contract, and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth:

**DEFINITIONS**

Whenever used in any of the contract Documents, the following meanings shall be given to the terms here in defined:

- A. The term "Contract" means the Contract executed between the County of Cameron, hereinafter called the "**County**" and, \_\_\_\_\_ hereinafter called "**Contractor**", of which these GENERAL CONDITIONS form a part.
- B. The term "Project Area" means the area within which is the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.
- C. The term "Engineer" means the Cameron County Engineer, Engineer in charge, serving the **County** with architectural or engineering services, his successor, or any other person or persons, employed by the **County** for the purpose of directing or having in charge the work embraced in this Contract.
- D. The term "**Architect**" means the architect contracted for the project by **Cameron County**.
- E. The term "Contract Documents" means and shall include the following: Executed Contract, Addenda (if any), Invitation for Bids, Instructions to Bidders, Signed Copy of Bid, General Conditions, Special Conditions, Technical Specifications, and Drawings (as listed in the Schedule of Drawings).

**ADMINISTRATION OF THE CONTRACT BY ARCHITECT AND ENGINEER**

The Engineer and Architect will provide administration of the Contract and will be the Owner's representatives (1) during construction and (2) until final payment is due. The Architect will advise and consult with the Owner and Engineer.

The Architect may appoint an employee or other person to assist him during the

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

construction. These representatives will be instructed to assist the **Contractor** in interpreting the Contract Documents; however, such assistance shall not relieve the Contractor from any responsibility as set forth by the Contract Documents. The fact that the Architect's representative may have allowed work not in accordance with the Contract Documents shall not prevent the Architect from insisting that the faulty work be corrected with the Contract Documents and the Contractor shall correct same.

**SUPERVISION BY CONTRACTOR**

- A. Except where the **Contractor** is an individual and gives his personal supervision to the work, the **Contractor** shall provide a competent superintendent, satisfactory to the **County** and the **Engineer**, on the work at all times during working hours with full authority to act for him. The **Contractor** shall also provide an adequate staff for the proper coordination and expediting of his work.
- B. The **Contractor** shall lay out his own work and he shall be responsible for all work executed by him under the Contract. He shall verify all figures and elevations before proceeding with the work and will be held responsible for any error resulting from his failure to do so.
- C. The **Contractor** expressly recognizes that the Architect does not owe him any duty to supervise or direct his work as to protect the **Contractor** from the consequences of his own acts or omissions.

**SUBCONTRACTS**

- A. The **Contractor** shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until he has verified the subcontractor as eligible to participate in federally funded contracts.
- B. No proposed subcontractor shall be disapproved by the **County** except for cause.
- C. The **Contractor** shall be as fully responsible to the **County** for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.
- D. The **Contractor** shall cause appropriate provisions to be inserted in all subcontracts relative to the work that require compliance by each subcontractor with the applicable provisions of this Contract.
- E. Nothing contained in the Contract shall create any contractual relation between any subcontractor and the **County**.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**FITTING AND COORDINATION OF WORK**

The **Contractor** shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, subcontractors, or material suppliers engaged upon this Contract.

**PAYMENTS TO CONTRACTOR**

A. Partial Payments

1. The **Contractor** shall prepare his requisition for partial payment as of the last day of the month and submit it, with the required number of copies, to the Architect and Engineer for their approval, on a notarized AIA G702 Application and Certificate for Payment form, and continuation sheet. In any contract where the total contract price at time of execution of the contract is \$400,000.00 or more and the contract provides for retainage of five percent (5%) of periodic contract payments, the Owner shall deposit the retainage in an interest-bearing account, and interest earned on such retainage funds shall be paid to the General Contractor upon completion of the contract. If the total contract price is less than \$400,000.00, then the retainage amount will be 10%. The amount of the payment due the Contractor shall be determined by adding to the total value of work completed to date, the value of materials properly stored on the site and deducting (1) five percent (5%) or ten percent (10%) of the total amount, to be retained until final payment and (2) the amount of all previous payments. The total value of work completed to date shall be based on the estimated quantities of work completed and on the unit prices contained in the agreement. The value of materials properly stored on the site or bonded warehouse shall be based upon the estimated quantities of such materials and the invoice prices, Copies of all invoices shall be available for inspection of the Architect and Engineer.
2. Monthly or partial payments made by the **county** to the **Contractor** are monies advanced for the purpose of assisting the contractor to expedite the work of construction. The **Contractor** shall be responsible for the care and protection of all materials and work upon which payments have been made until final acceptance of such work and materials by the **County**. Such payments shall not constitute a waiver of the right of the **County** to require the fulfillment of all terms of the Contract and the delivery of all improvements embraced in this Contract complete and satisfactory to the **County** in all details. Such payments will be made by the County within thirty days of receipt of the invoice by the County Auditor's Office.

B. Final Payment

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

1. After final inspection and acceptance by the **County** and Architect of all work under the Contract, the **Contractor** shall prepare his requisition for final payment which shall be based upon the careful inspection of each item of work at the applicable unit prices stipulated in the Agreement. The total amount of the final payment due the **Contractor** under this contract shall be the amount computed as described above less all previous payments.
2. The **County** before paying the final estimate shall require the **Contractor** to furnish releases (AIA G706A Contractor's Affidavit of Release of Liens form) or receipts from all subcontractors having performed any work and all persons having supplied materials, equipment (installed on the Project) and services to the **Contractor**, if the **County** deems it necessary in order to protect its interest. The **County** may, if it deems such action advisable, make payment in part or in full to the **Contractor** without requiring the furnishing of such releases or receipts and any payments made shall in no way impair the obligations of any surety or sureties furnished under this Contract. Other close out documents shall include AIA G706 Contractor's Affidavit of Payment of Debts and Claims, AIA G707 Consent of Surety Company to Final Payment.
3. Any amount due the **County** under Liquidated Damages shall be deducted from the final payment due the contractor.

**C. Payments Subject to Submission of Certificates**

Each payment to the **Contractor** by the **County** shall be made subject to submission by the **Contractor** of all written certifications required of him and his subcontractors.

**D. Withholding Payments**

The **County** may withhold from any payment due the **Contractor** whatever is deemed necessary to protect the **County**, and if so elects, may also withhold any amounts due from the **Contractor** to any subcontractors or material dealers, for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the **County** and will not require the **County** to determine or adjust any claims or disputes between the **Contractor** and his subcontractors or material dealers, or to withhold any moneys for their protection unless the **County** elects to do so. The failure or refusal of the County to withhold any moneys from the **Contractor** shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this Contract.

**CHANGES IN THE WORK**

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- A. The **County** may make changes in the scope of work required to be performed by the **Contractor** under the Contract without relieving or releasing the **Contractor** from any of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise.
- B. Except for the purpose of affording protection against any emergency endangering health, life, limb or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the **County** authorizing the **Contractor** to proceed with the change. No claim for an adjustment of the Contract Price will be valid unless so ordered.
- C. If applicable unit prices are contained in the Agreement, the **County** may order the **Contractor** to proceed with desired unit prices specified in the Contract; provided that in case of a unit price contract the net value of all changes does not increase the original total amount of the agreement by more than twenty-five percent (25%) or decrease the original the total amount by twenty-five percent (25%).
- D. Each change order shall include in its final form:
1. A detailed description of the change in the work.
  2. The Contractor's proposal (if any) or a confirmed copy thereof.
  3. A definite statement as to the resulting change in the contract price and/or time.
  4. The statement that all work involved in the change shall be performed in Accordance with contract requirements except as modified by the change order.
  5. The procedures as outlined in this Section for a unit price contract also apply in any lump sum contract.
  6. The signatures of authorized representatives of Contractor and County.

**CLAIMS FOR EXTRA COST**

- A. If the **Contractor** claims that any instructions by Drawings or otherwise involve extra cost or extension of time, he shall, within ten days after the receipt of such instructions, and in any event before proceeding to execute the work, submit his protest thereto in writing to the **County**, stating clearly and in detail the basis of his objections. No such claim will be considered unless so made.
- B. Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, or bench marks, will not be recognized unless accompanied by

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certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work, than would be reasonably estimated from the Drawings and maps issued.

- C. Any discrepancies, which may be discovered between actual conditions and those represented by the Drawings and maps, shall be reported at once to the Architect and the Engineer and work shall not proceed except at the Contractors risk, until written instructions have been received by him from the Engineer.
- D. If, on the basis of the available evidence, the **County** determines that an adjustment of the Contract Price and/or time is justifiable, a change order shall be executed.

**EXTRA WORK**

The term “EXTRA WORK” as used in the agreement shall be understood to mean and include all work that may be required by the Engineer or **County** to be done by the **Contractor** to accomplish any change, alteration or addition to the work shown upon the plans, or reasonably implied by the specifications, and not covered by the Contractor’s proposal. It is agreed that the Contractor shall perform all Extra Work under the direction of the Engineer when presented with a written Work Order signed by the Engineer; Subject, however, to the right of the **Contractor** to require a written confirmation of such Extra Work Order by the **County**. It is also agreed that the compensation to be paid the **Contractor** for performing said Extra Work shall be determined by one or more of the following methods:

- Method (a): By agreed unit prices;
- Method (b): By agreed lump sum;
- Method (c): If neither Method (a) nor Method (b) can be agreed the “actual field cost” of the work plus ten (10) percent.

In the event said Extra Work be performed and paid for under Method (c), then the provisions of this paragraph shall apply and the “actual field cost” is hereby defined to include the cost of all workmen, such as foremen, time keepers, mechanics and laborers, and materials, supplies, trucks, rental of machinery and equipment for the time actually employed or used on such Extra Work plus actual transportation changes necessarily incurred if the kind of equipment or machinery is not already on the job, together with the power, fuel, lubricants, water and similar operating expenses, also all necessary incidental expenses incurred directly on account of such Extra Work, including Social Security, Old Age Benefits and other payroll taxes, and a rateable proportion of premiums on Construction and Maintenance Bonds, Public Liability and Property Damage and Workmen’s Compensation, and all other insurance as may be required by any law or ordinance, or directed by the Engineer or **County**, or by them agreed. The Engineer may direct the form in which accounts of the “actual field cost” shall be kept and may also specify in

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writing, before the work commences, the method of doing the work and the type and kind of machinery and equipment to be used, otherwise these matters shall be determined by the **Contractor**. Where practicable the terms and prices for the use of machinery and equipment shall be incorporated in the Written Extra Work Order.

The ten (10) percent of the “actual field cost” to be paid the **Contractor** shall cover and compensate him for his profit, overhead, general superintendence and field office expense, and all other elements of cost and expense not embraced within the “actual field cost” as above defined, save that where the Contractor’s Camp or Field Office must be maintained primarily on account of such Extra Work, then the cost to maintain and operate same, excluding staff, shall be included in the “actual field cost”.

No claim for extra work of any kind will be allowed unless ordered in writing by the Engineer. In case any orders or instructions, either oral or written, appear to the Contractor to involve extra work for which he should receive compensation, he shall make written request to the Engineer for written order authorizing Extra Work. Should a difference of opinion arise as to what does or does not constitute extra work, or as to the payment therefore, and the Engineer insists upon its performance, the **Contractor** shall proceed with the work after making written order and shall keep an accurate account of the “actual field cost” thereof, as provided under Method (c). The **Contractor** will thereby preserve the right to submit the matter for payment, as herein above described. Change orders shall be executed on form similar to AIA G701Change Order document.

**TERMINATION, DELAYS, AND LIQUIDATED DAMAGES**

A. Right of the County to Terminate Contract.

In the event that any of the provisions of this contract are violated by the **Contractor**, or by any of his subcontractors, the **County** may serve written notice upon the **Contractor** and the Surety of its intention to terminate the contract. The notices shall contain the reasons for such intention to terminate the contract, and unless such violation or delay shall cease and satisfactory arrangement of correction be made within ten days, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the **County** shall immediately serve notice thereof upon the Surety and the **Contractor**. The Surety shall have the right to take over and perform the contract. Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the **County** may take over the work and complete the project by bid/contract or by force account at the expense of the **Contractor** and his Surety shall be liable to the **County** for any excess cost incurred. In such event the **County** may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

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B. Liquidated Damages for Delays.

If the work is not complete within the time stipulated in the applicable bid for Lump Sum or Unit Price Contract provided, the **Contractor** shall pay to the **County** as fixed, agreed, and liquidated damages (it being possible to determine the actual damage occasioned by the delay) the amount of Three Hundred Dollars (\$300.00) for each calendar day of delay, until the work is completed. The **Contractor** and his sureties shall be liable to the **County** for the amount thereof.

C. Hindrance and Delays.

No damages for delays shall be paid to the **Contractor** by the **County**, except for any unreasonable delays caused by the **County**.

D. Excusable Delays.

The right of the **Contractor** to proceed shall not be terminated nor shall the **Contractor** be charged with liquidated damages for any delays in the completion of the work due to:

- (1) Any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, national defense, or any other national emergency;
- (2) Any acts of the **County**;
- (3) Causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the **Contractor**, including, but not restricted to, acts of God or of the public enemy, acts of another **Contractor** in the performance of some other contract with the **County**, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.

Provided, however, that the **Contractor** promptly notifies the **County** within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the **County** shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract, the delay is properly excusable, the **County** shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

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The **Contractor** shall include a time to complete the scope of work stated in calendar days that includes anticipated number of working days that construction may be unable to take place, due to inclement weather and muddy ground. Extensions to the completion date will be granted only if, in the opinion of the Architect, climatological conditions that impede the progress of construction significantly exceed conditions for the local area. A guide for average climatological conditions will be the "Local Climatological Data" bulletin published by the Department of Commerce.

**ASSIGNMENT OR NOVATION**

The **Contractor** shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this **Contract** without the written consent of the **County**; provided, however, that assignments to banks or other financial institutions may be made without the consent of the **County**. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the **Contractors** rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment supplied for the performance of the work under this Contract in favor of all persons, firms, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

**DISPUTES**

- A. All disputes arising under this Contract or its interpretation except those disputes covered by FEDERAL LABOR STANDARDS PROVISIONS whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall, within ten (10) days of commencement of the dispute, be presented by the **Contractor** to the Architect and Engineer for review and decision. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days of its commencement, the claim will be considered only for a period commencing ten (10) days prior to the receipt of the Architect and Engineer.
- B. The **Contractor** shall submit in detail his claim and his proof thereof.
- C. If the **Contractor** does not agree with any decision of the Architect and Engineer, he shall in no case allow the dispute to delay the work but shall notify the Architect and Engineer promptly that he is proceeding with the work under protest.

**TECHNICAL SPECIFICATIONS AND DRAWINGS**

Anything mentioned in the Technical Specifications and not shown on the Drawings or vice versa shall be of like effect as if shown on or mentioned in both. In case of difference between

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Drawings and Technical Specifications, the Technical Specifications shall govern. In case of any discrepancy in Drawings, or Technical Specifications, the matter shall be immediately submitted to the Architect and Engineer, without whose decision, said discrepancy shall not be adjusted by the **Contractor**, save only at his own risk and expense.

**SHOP DRAWINGS**

- A. All required shop drawings, machinery details, layout drawings, etc. shall be submitted to the Architect and the Engineer in copies for approval sufficiently in advance of requirements to afford ample time for checking, including time for correcting, resubmitting and rechecking if necessary. The **Contractor** may proceed, only at his own risk, with manufacture or installation of any equipment or work covered by said shop drawings, etc. until they are approved and no claim, by the **Contractor**, for extension of the contract time shall be granted by reason of his failure in this respect.
- B. Shop drawings and samples shall be dated and marked to show the names of the Project, Architect, **Contractor**, Originating Subcontractor, Manufacturer or Supplier. Shop drawings shall completely identify specification section and locations at which materials or equipment is to be installed. All shop drawings are to be reviewed first by the **General Contractor** who shall affix his signature. Any drawings submitted without the Contractor's stamp of approval will not be considered and will be returned to him for proper resubmission. If any drawings show variations from the requirements of the Contract because of standard shop practice or other reason, the **Contractor** shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment of contract price and/or time, otherwise the **Contractor** will not be relieved of the responsibility for executing the work in accordance with the Contract even though the drawings have been approved.
- C. The **Contractor** shall submit and, if necessary, resubmit one (1) reproducible and four (4) copies of the shop drawings.
- D. If a shop drawing is in accordance with the contract or involves only a minor adjustment in the interest of the **County** not involving a change in contract price or time; the Engineer may approve the drawing. The approval shall not relieve the **Contractor** from his responsibility for adherence to the contract or for any error in the drawing.

**REQUESTS FOR SUPPLEMENTARY INFORMATION**

It shall be the responsibility of the **Contractor** to make timely requests of the **County** for any additional information not already in his possession which should be furnished by the **County** under the terms of this Contract, and which he will require in the planning and execution of the work. Such requests may be submitted from time to time as the need approaches, but each shall

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be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing and list the various items and the latest date by which each will be required by the **Contractor**. The first list shall be submitted within two weeks after Contract award and shall be as complete as possible at that time. The **Contractor** shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the **Contractor**. The **Contractor** shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provision of this section.

**MATERIALS AND WORKMANSHIP**

- A. Unless otherwise specifically provided for in the technical specifications, all workmanship, equipment, materials and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles or workmanship are referred to in the technical specifications as "equal to" any particular standard, the Engineer shall decide the question of equality.
- B. The **Contractor** shall certify in writing that no materials used in the work contain asbestos materials in them excess of amounts allowed by Local/State standards, laws, codes rules and regulations; the Federal Environmental Protection Agency (EPA) standards and/or the Federal Occupational Safety and Health Administration (OSHA) standards, whichever is most restrictive. The **Contractor** shall provide this written certification to the Engineer.
- C. The **Contractor** shall furnish to the **County** for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment, which he contemplates installing together with full information as to type, performance characteristics, and all other pertinent information as required, and shall likewise submit for approval full information concerning all other materials or articles which he proposes to incorporate.
- D. Products are generally specified by ASTM or other reference standard, and/or by manufacture's name and model number or trade name. When specified only by reference standard, the **Contractor** may select any product meeting this standard by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the **Contractor** has the option of using any product and manufacturer combination listed. When only one product manufacturer is specified this is the basis of the Contract, without substitution or exception.
- E. Substitutions will not be considered if they are indicated or implied on shop drawing submissions without formal request, or for their implementation they require a substantial revision of the Contract Documents in order to accommodate their use.

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- F. No request for the substitution of products in place of those specified shall be considered after the Contract has been executed.
- G. Not later than seven (7) days from the Contract Date, the **Contractor** shall provide a list showing the name of the manufacturers proposed to be used for each of the products identified in the General Requirements of the Specifications, and where applicable, the name of the installing subcontractor.
- H. Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.
- I. Materials specified by reference to the number or symbol of a specific standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids, except as limited to type, class or grade, or modified in the technical specifications shall have full force and effect as though printed therein.
- J. The **County** may require the **Contractor** to dismiss from the work such employee or employees as the **County** or the Engineer may deem incompetent, or careless, or insubordinate.

**SAMPLES, CERTIFICATES AND TESTS**

- A. The **Contractor** shall submit all material or equipment samples, certificates, affidavits, etc., as called for in the contract documents or required by the Engineer, promptly after award of the contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Engineer. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the contract time.
- B. Each sample submitted by the **Contractor** shall carry a label giving the name of the **Contractor**, the project for which it is intended, and the name of the producer. The accompanying certificate or letter from the **Contractor** shall state that the sample complies with contract requirements, shall give the name and brand of the product, its place of origin, the name and address of the producer and all specifications or other detailed information which will assist the Engineer in making a prompt decision regarding the acceptability of the sample. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples

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and/or certified statements.

- C. Approval of any materials shall be general only and shall not constitute a waiver of the **County's** right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories which fail to meet check tests have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the **Contractor** as is equitable.
- D. Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:
1. The **Contractor** shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, except those samples taken on the project by the Engineer;
  2. The **Contractor** shall assume all costs of re-testing materials, which fail to meet contract requirements;
  3. The **Contractor** shall assume all costs of testing materials offered in substitution for those found deficient;
  4. The **County** will pay all other expenses.

**PERMITS AND CODES**

- A. The **Contractor** shall give all notices required by and comply with all applicable laws, ordinances, and codes of the Local Government. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers. Before installing any work, the **Contractor** shall examine the drawings and technical specifications for compliance with applicable ordinances and codes and shall immediately report any discrepancy to the **County**. Where the requirements of the drawings and technical specifications fail to comply with such applicable ordinances or codes, the Architect will adjust the Contract by Change Order at his expense to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department).

Should the **Contractor** fail to observe the foregoing provisions and proceed with the construction and/or install any utility at variance with any applicable ordinance or code, including any written waivers (notwithstanding the fact that such installation is in

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compliance with the drawings and technical specifications), the **Contractor** shall remove such work without cost to the **County**,

- B. The **Contractor** shall at his own expense, secure and pay for all permits for street pavement, sidewalks, shed, removal of abandoned water taps, sealing of house connection drains, pavement cuts, buildings, electrical, plumbing, water, gas and sewer permits required by the local regulatory body or any of its agencies.
- C. The **Contractor** shall comply with applicable local laws and ordinances governing the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the Improvements contained in this Contract.

**CARE OF WORK**

- A. The **Contractor** shall be responsible for all damages to person or property that occur as a result of his fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance.
- B. The **Contractor** shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.
- C. In an emergency affecting the safety of life, limb or property, including adjoining property, the **Contractor**, without special instructions or authorization from the **County** is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act. He shall likewise act if instructed to do so by the **County**.
- D. The **Contractor** shall avoid damage as a result of his operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc., and he shall at his own expense completely repair any damage thereto caused by his operations.
- E. The **Contractor** shall shore up, brace, underpin, secure, and protect as maybe necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the improvements included in this Contract. The **Contractor** shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of any work. The **Contractor** shall indemnify and save harmless the County from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the **County**

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may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

**ACCIDENT PREVENTION**

- A. No laborer or mechanic employed in the performance of this Contract shall be required to work in surroundings or under working conditions, which are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards promulgated by the Secretary of Labor.
- B. The **Contractor** shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work.
- C. The **Contractor** shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The **Contractor** shall promptly furnish the **County** with reports concerning these matters
- D. The **Contractor** shall indemnify and save harmless the **County** from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this contract.
- E. The **Contractor** shall provide trench protection for all trenches in excess of a depth of five (5) feet, in the manner specified in the technical specifications and drawings.

**SANITARY FACILITIES**

The contractor shall furnish, install and maintain ample sanitary facilities for the workmen. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations.

**USE OF PREMISES**

- A. The **Contractor** shall confine his equipment, storage of materials, and construction operations to the contract limits as shown on the drawings and as prescribed by ordinances or permits, or as may be desired by the **County**, and shall not unreasonably encumber the site or public rights of way with his materials and construction equipment.

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- B. The Contractor shall comply with all reasonable instructions of the County and all existing state and local regulations regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades
- C. Smoking and chewing of tobacco products is prohibited in the enclosed new construction.

**REMOVAL OF DEBRIS, CLEANING, ETC.**

The **Contractor** shall, periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the Project Area and public rights of way reasonably clear. Upon completion of the work, he shall remove all temporary construction facilities, debris and unused materials provided for work, and put the whole site of the work and public rights of way in a neat and clean condition.

**INSPECTION**

- A. All materials and workmanship shall be subject to inspection, examination, or test by the **County**, the Architect, and the Engineer at any and all times during manufacture or construction and at any and all places where such manufacture or construction occurs. The **County** shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the Project Area and replaced with material of specified quality without charge. If the **Contractor** fails to proceed at once with the correction of rejected workmanship or defective material, the **County** may by contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any Monies which may be due the **Contractor**, without prejudice to any other rights or remedies of the **County**.
- B. The **Contractor** shall furnish promptly all materials reasonably necessary for any tests, which may be required. All tests by the **County** will be performed in such manner as not to delay the work unnecessarily and will be made in accordance with the provisions of the technical specifications.
- C. The **Contractor** shall notify the **County** sufficiently in advance of back filling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the **County**, the **Contractor** shall uncover for inspection and recover such facilities at his own expense, when so requested by the **County**.
- D. Should it be considered necessary or advisable by the **County** at any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, the **Contractor** shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or

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essential respect, due to fault of the **Contractor** or his subcontractors, the **Contractor** shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, shall be allowed the **Contractor** and he shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved

- E. Inspection of materials and appurtenances to be incorporated in the improvements included in this Contract may be made at the place of production, manufacture or shipment, whenever the quantity justifies it, and such inspection and acceptance, unless otherwise stated in the technical specifications, shall be final, except as regards (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials as a whole or in part will be made at the Project Site.
- F. Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the **County** or its agents shall relieve the **Contractor** or his sureties of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

**REVIEW BY COUNTY**

The **County** and its authorized representatives and agents shall have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however that all instructions and approval with respect to the work will be given to the **Contractor** only by the **County** through its authorized representatives or agents.

**FINAL INSPECTION**

When the Improvements included in this Contract are substantially completed, the Architect shall notify the **County** in writing that the work will be ready for final inspection on a definite date, which shall be stated in the notice. The **County** will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable. The AIA Certificate of Substantial Completion G704 form shall be used to determine date of substantial completion.

**DEDUCTION FOR UNCORRECTED WORK**

If the **County** deems it not expedient to require the **Contractor** to correct work not done in

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accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the **Contractor** and the **County** and subject to settlement, in case of dispute, as herein provided.

**INSURANCE**

The **Contractor** shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the **County**.

- A. Compensation Insurance: The **Contractor** shall procure and shall maintain during the life of this contract Workers Compensation Insurance as required by the State of Texas for all of his employees to be engaged in work at the site of the project under this contract and, in case of any such work sublet, the **Contractor** shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractors Workers Compensation Insurance.
  
- B. Contractors Public Liability and Property Damage Insurance and Vehicle Insurance: The **Contractor** shall procure and shall maintain during the life of this contract Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the following amounts: See Special Conditions of the Agreement.
  
- C. Proof of Insurance: The **Contractor** shall furnish the **County** with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the **County**."

**INDEMNITY**

**Contractor** shall indemnify, defend and hold harmless the Architect and **Cameron County**, its officials, officers, agents, and employees, from any and all liabilities, claims, demands, actions, losses, damages and costs, including all costs of defense thereof, of any nature whatsoever, for injury to or death of persons or loss or damage to property, or for any other reason (except for those resulting from the negligence of the County's or Architects' officials, officers, agents, and employees) occurring on the premises or in any manner arising out of or connected with Contractor's contractual obligations, including any claims, liabilities and actions based upon the acts or omissions of Contractor's officers, agents and employees.

**WARRANTY OF TITLE**

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No material, supplies, or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease-purchase or other agreement by which an interest is retained by the seller or supplier. The **Contractor** shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed by him to the **County** free from any claims, liens, or charges. Neither the Contractor -nor any person, firm, or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any law permitting such persons to look to funds due the **Contractor** in the hands of the **County**. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

**WARRANTY OF WORKMANSHIP AND MATERIALS**

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements included in this Contract by the **County** or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the **Contractor** of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The **Contractor** shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of twelve (12) months from the date of final acceptance of the work.

**COMPLIANCE WITH AIR AND WATER ACTS**

In compliance with the Clean Air Act, as amended, 41 U.S.C. Sec 7401 ET. Seq., and the regulations of the Environmental Protection Agency with respect thereto, the **Contractor** agrees that:

1. Any facility to be utilized in the performance of this contract or any subcontract shall not be a facility listed on the EPA List of Violating Facilities pursuant to 40 CFR 15.20.
2. He will comply with all requirements of Section 114 of the Clean Air Act, as amended.

**EQUAL EMPLOYMENT OPPORTUNITY**

- A. The **Contractor** will not discriminate against any employee or the applicant for employment because of race, color, religion, sex, or national origin.
- B. The **Contractor** will cause the foregoing provision to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each

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subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

- C. 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.

**AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS**

The **Contractor** will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified.

**NON-SEGREGATED FACILITIES**

The **Contractor** certifies that he does not and will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not and will not permit his employees any segregated facilities at any of his establishments, or permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. As used in this paragraph the term "segregated facilities" means any waiting rooms, work areas, rest rooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation. And housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

**JOB OFFICES**

- A. The **Contractor** will maintain such office and storage facilities on the site as are necessary for the proper conduct of the work. Subcontractors may do the same. These shall be located so as to cause no interference to any work to be performed on the site. The **County** shall be consulted with regard to locations.
- B. Upon completion of the improvements, or as directed by the **County**, the **Contractors** shall remove all such temporary structures and facilities from the site, and leave the site of the work in the condition required by the Contract.

**CONTRACT DOCUMENTS AND DRAWINGS**

The **Contractor** will be furnished a maximum number of TWENTY (20) free of charge, copies of Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage, and handling.

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**CONTRACT PERIOD**

The work to be performed under this contract shall commence within the time stipulated by the **County** in the Notice to Proceed, and shall be fully completed within 150 calendar days thereafter.

**ABANDONMENT BY CONTRACTOR**

In case the **Contractor** should abandon or fail to resume work within ten (10) days after written notification from the **County** or the Engineer, or the **Contractor** fails to comply with the orders of the Engineer when such orders are consistent with this contract or this Agreement or with the specifications hereto attached, then and in that case, the Surety on the bonds shall be notified in writing and directed to complete the work, and a copy of said notice shall be delivered to the **Contractor**.

After receiving said notice of abandonment, the **Contractor** shall not remove from the work any machinery, equipment, tools, materials or supplies then on the job, but the same, together with any materials and equipment under contract for work, may be held for use on the work by the **County** or the Surety on the construction bond, or another **Contractor**, in completion of the work; and the **Contractor** shall not receive any rental or credit therefore (except when used in connection with extra work, where credit shall be allowed as provided for under "Extra Work"), it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the work and be reflected in the final settlement.

In case the Surety should fail to commence compliance with the notice for completion herein before provided for within ten (10) days after services of such notice, then the **County** may provide for completion of the work in either of the following elective manners:

- A. The **County** may thereupon employ such force of men and use such machinery, equipment, tools, materials and supplies as said **County** may deem necessary to complete the work and charge the expense of such labor, material, machinery, equipment, tools and supplies to said **Contractor** and the expense so charged shall be deducted and paid by the **County** out of such money as may be due, or that may thereafter at any time become due to the **Contractor** under and by virtue of this Agreement. In case such expense is more than the sum which would have been payable under this contract if the same had been completed by the Contractor, then the Contractor and/or his surety shall pay the amount of such excess to the County;
- B. The **County**, under sealed bids, after five (5) days' notice published one or more times in a newspaper having a general circulation in the **County** of the location of the work, may

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let a contract for the completion of the work under substantially the same terms and conditions which are provided in this contract. In case of any increase in cost to the **County** under the new contract as compared to what would have been the cost under this contract, such increase shall be charged to the **Contractor** and the Surety shall be and remain bound thereto. When the work shall have been substantially completed the **Contractor** and his Surety shall be notified and Certificates of Completion and Acceptance shall be issued as provided herein-above, a complete itemized statement of the contract accounts, certified to by the Engineer as being correct, shall then be prepared and delivered to the **Contractor** and his Surety, whereupon the **Contractor** and/or his Surety shall pay the balance due as reflected by said statement within twenty-one (21) days after the date of such Certificate of Completion.

In the event the statement of the account shows that the cost to complete the work is less than that which would have been the cost to the **County** had the work been completed by the **Contractor** under the terms of this contract and when the **Contractor** and/or his Surety shall pay the balance shown to be due by them to the **County**, then all machinery, equipment tools, materials or supplies left on the site of the work shall be turned over to the **Contractor** and/or his Surety. Should the cost to complete the work exceed the contract price and the **Contractor** and/or his Surety fail to pay the amount due the **County** within the time designated hereinabove, and there remains any machinery, equipment, tools, material or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the **Contractor** and his Surety at the respective addresses designated in this contract provided, however, that actual written notice given in any manner will satisfy this condition. After mailing or otherwise giving such notice, such property shall be held at the risk of the **Contractor** and his Surety subject only to the duty of the **County** to exercise ordinary care to protect such property. After fifteen (15) days from the date of said notice the **County** may sell such machinery, equipment, tools, materials or supplies and apply the net sum derived from such sale to the credit of the **Contractor**, as the **County** may elect.

The **County** shall release any machinery, equipment, tools, materials or supplies, which remain on the work and belong to persons other than the **Contractor** or his Surety, to their proper Localities without notice to the **Contractor**.

**ABANDONMENT BY THE COUNTY**

In case the **County** shall fail to comply with the terms of this contract and should fail or refuse to comply with said terms within ten (15) days after written notifications by the **Contractor**, the **Contractor** may suspend or wholly abandon the work, and may remove therefrom all machinery, tools and equipment. And thereupon the Engineer shall make an estimate of the total earned by the **Contractor**, which estimate shall include the value of all work actually completed by said **Contractor** at the prices stated in the attached proposal, the value of all partially completed work at a fair and equitable price, and the amount of all extra work performed at the

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prices agreed upon, or provided for by the terms of this contract, and a reasonable sum to cover the cost of any provisions made by the **Contractor**, to carry the whole work to completion and which cannot be utilized. The Engineer shall then make a final statement of the balance due the **Contractor** by deducting from the above estimate all previous payments by the **County**, all other sums that may have been retained by the **County**, under the terms of this Agreement, and shall certify same to the **County** who shall pay to the **Contractor** on or before thirty (30) days after the date of the notification by the **Contractor**, the balance shown by said final statement as due the Contractor under the terms of this Agreement.

**BONDS**

It is further agreed by the parties of this contract that the **Contractor** shall execute a performance bond and a payment bond, each in the sum of one hundred (100%) percent, in the forms provided for this purpose, and it agreed that this contract shall not be in effect until such bonds are furnished and approved by the **County**.

**RIGHTS AND REMEDIES**

Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

No action or failure to act by the **County** or Architect or **Contractor** shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such act or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

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**Section 109 of the Housing and Community Development Act of 1974.**

The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the ground of race, color, national origin, religion, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

**Section 504 Rehabilitation Act of 1973, as amended.**

The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his/her disability, be denied the benefits of, or be subjected to discrimination, including discrimination in employment, under any program or activity receiving federal financial assistance.

**Age Discrimination Act of 1975.**

The Contractor shall comply with the Age Discrimination Act of 1975 which provides that no person in the United States shall on the basis of age be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

**Economic Opportunities for Section 3 Residents and Section 3 Business Concerns.**

- (a) The work to be performed under this Contract is subject to the requirements of section 3 of the Housing and Urban Development (HUD) Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- (b) The parties to this Contract agree to comply with HUD's regulations in 24 CFR part 75, which implement section 3. As evidenced by their execution of this Contract, the parties to this Contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.
- (c) The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.
- (d) The Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the Contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 75. Minimum expectations of effort to direct employment opportunities to such workers are identified in the TxCDBG Project Implementation Manual.
- (e) Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this Contract for default, and debarment or suspension from future HUD assisted contracts.

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Compliance with Davis-Bacon Act

All laborers and mechanics employed upon the work covered by this Contract shall be paid unconditionally and not less often than once each week, and without subsequent deduction or rebate on any account (except such payroll deductions as are made mandatory by law and such other payroll deductions as are permitted by the applicable regulations issued by the Secretary of Labor, United States Department of Labor, pursuant to the Anti-Kickback Act hereinafter identified), the full amount due at time of payment computed at wage rates not less than those contained in the wage determination decision of said Secretary of Labor (a copy of which is attached as Attachment \_\_ and herein incorporated by reference), regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such laborers and mechanics. All laborers and mechanics employed upon such work shall be paid in cash, except that payment may be by check if the employer provides or secures satisfactory facilities approved by the County for the cashing of the same without cost or expense to the employee. For the purpose of this clause, contributions made or costs reasonably anticipated 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 Section 5.5 (a) (1) (iv) of Title 29, Code of Federal Regulations. Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds, or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

The Contractor and its subcontractors shall not, by any means, induce any person employed in the construction, completion, or repair of public work, give up any part of the compensation to which he or she is otherwise entitled. The County must report all suspected or reported violations to TDA.

Conflicts of interest.

- (a) Governing Body. No member of the governing body of the County and no other officer, employee, or agent of the City/County, who exercises any functions or responsibilities in connection with administration, construction, engineering, or implementation of TxCDBG award between TDA and the County, shall have any personal financial interest, direct or indirect, in the Contractor or this Contract; and the Firm shall take appropriate steps to assure compliance.
  
- (b) Other Local Public Officials. No other public official, who exercises any functions or responsibilities in connection with the planning and carrying out of administration, construction, engineering or implementation of the TxCDBG award between TDA and the County, shall have any personal financial interest, direct or indirect, in the Contractor or this Contract; and the Contractor shall take appropriate steps to assure compliance.
  
- (a) The Contractor and Employees. The Contractor warrants and represents that it has no conflict of interest associated with the TxCDBG award between TDA and the County or this Contract. The Contractor further warrants and represents that it shall not acquire an interest, direct or indirect, in any geographic area that may benefit from the TxCDBG award between TDA and the County or in any

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business, entity, organization or person that may benefit from the award. The Contractor further agrees that it will not employ an individual with a conflict of interest as described herein.

Debarment and Suspension (Executive Orders 12549 and 12689)

The Contractor certifies, by entering into this Contract, that neither it nor its principals are presently debarred, suspended, or otherwise excluded from or ineligible for participation in federally-assisted programs under Executive Orders 12549 (1986) and 12689 (1989). The term "principal" for purposes of this Contract is defined as an officer, director, owner, partner, key employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor. The Contractor understands that it must not make any award or permit any award (or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

[For Contracts that exceed \$100,000] Anti-Lobbying

Contractor shall file the required certification: The undersigned certifies, 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 an 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 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.
- (c) 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.

[For Contracts > \$100K] 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, including watchmen and guards, shall require or permit any laborer or mechanic in any workweek in which he is employed on such work to work in excess of 40 hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of 40 hours in such work week, as the case may be.

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[For Contracts > \$150K] Clean Air Act and the Federal Water Pollution Control Act

The Contractor or subcontractor shall 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 awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

Equal Opportunity Clause [applicable to contracts and subcontracts over \$10,000].

During the performance of this contract, the Contractor agrees as follows:

- (a.) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: 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. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (b.) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (c.) The Contractor will not discourage or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (d.) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (e.) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, "Equal Employment Opportunity," and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (f.) The Contractor will furnish all information and reports required by Executive Order 11246 of

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September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (g.) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (h.) The Contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Section 109 of the Housing and Community Development Act of 1974.

The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the ground of race, color, national origin, religion, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

Section 504 Rehabilitation Act of 1973, as amended.

The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his/her disability, be denied the benefits of, or be subjected to discrimination, including discrimination in employment, under any program or activity receiving federal financial assistance.

Age Discrimination Act of 1975.

The Contractor shall comply with the Age Discrimination Act of 1975 which provides that no person in the United States shall on the basis of age be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Economic Opportunities for Section 3 Residents and Section 3 Business Concerns.

- (f) The work to be performed under this Contract is subject to the requirements of section 3 of the Housing and

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Urban Development (HUD) Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

- (g) The parties to this Contract agree to comply with HUD's regulations in 24 CFR part 75, which implement section 3. As evidenced by their execution of this Contract, the parties to this Contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.
- (h) The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.
- (i) The Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the Contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 75. Minimum expectations of effort to direct employment opportunities to such workers are identified in the TxCDBG Project Implementation Manual.
- (j) Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this Contract for default, and debarment or suspension from future HUD assisted contracts.

Gender Neutral - Gender References

When necessary, unless the context clearly requires otherwise, any gender-specific or gender-neutral term in this Contract (for example, he, she, it, etc.) is to be read as referring to any other gender or to no gender.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**CONTRACTOR CERTIFICATIONS**

U.S. Department of Housing and Urban Development	
<b>CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS</b>	
INSTRUCTIONS	
CERTIFICATION OF BIDDER REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.	
NAME AND ADDRESS OF BIDDER (include ZIP Code)	
CERTIFICATION BY BIDDER	
Bidder has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations.	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
The undersigned hereby certifies that: <input type="checkbox"/> The <u>Provision of Local Training, Employment, and Business Opportunities</u> clause (Section 3 provision) is included in the Contract. <input type="checkbox"/> The <u>Equal Opportunity</u> clause is included in the Contract (if bid equals or exceeds \$10,000).	
Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
NAME AND TITLE OF SIGNER (Please type)	
SIGNATURE	DATE

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM  
CONTRACTOR'S CERTIFICATION

**CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS**

TO (appropriate recipient)	DATE
	PROJECT NUMBER (if any)
C/O	PROJECT NAME

1. The undersigned, having executed a contract with \_\_\_\_\_  
\_\_\_\_\_ for the construction of the above-identified project, acknowledges that:

- (a) The Labor Standards provisions are included in the aforesaid contract,
- (b) Correction of any infractions of the aforesaid conditions, including infractions by any subcontractors and any lower tier subcontractors, is Contractor's responsibility.

2. Certifies that:

- (a) Neither Contractor nor any firm, partnership or association in which it has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act, as amended.
- (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.

3. Contractor agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

4. Certifies that:

- (a) The legal name and the business address of the undersigned are:

(b) The undersigned is (choose one):

(1) A SINGLE PROPRIETORSHIP	(3) A CORPORATION ORGANIZED IN THE STATE OF
(2) A PARTNERSHIP	(4) OTHER ORGANIZATION (Describe)

(c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**


(d) The names and addresses of all other persons having a substantial interest in the undersigned, and the nature of the interest are:

NAME	ADDRESS	NATURE OF INTEREST

(e) The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are:

NAME	ADDRESS	TRADE CLASSIFICATION

Date \_\_\_\_\_

\_\_\_\_\_  
(Contractor)

By \_\_\_\_\_

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**Certification Regarding Lobbying**

(To be submitted with each bid or offer exceeding \$100,000)

The undersigned certifies, 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 an 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 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.
- (c) The undersigned shall require that the language paragraph 1 and 2 of this anti-lobbying 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 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995).

The Contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq.*, apply to this certification and disclosure, if any.

\_\_\_\_\_  
Signature of Contractor's Authorized Official

\_\_\_\_\_  
Printed Name and Title of Contractor's Authorized Official

\_\_\_\_\_  
Date

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**STANDARD FORM OF AGREEMENT**

STATE OF TEXAS §

COUNTY OF CAMERON §

THIS AGREEMENT, MADE AND ENTERED INTO THIS THE \_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_, A.D., by and between the County of Cameron thereunto duly authorized so to do, Party of the First Part, hereinafter called County, and, of \_\_\_\_\_, Party of the Second Part hereinafter termed Contractor.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Party of the First Part (County), and under the conditions expressed in the bond bearing every date herewith, the said Party of the Second Part (Contractor), hereby agrees with said Party of the First Part (County), to commence and complete the construction of certain improvements described as follows: Cameron County, **BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004** and any extra work in connection therewith, under the terms as stated in the General Conditions of the Agreement, Special Conditions of the Agreement, Technical Specifications and Plans and at his (or their) own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories, with the conditions and prices stated in the Proposal attached hereto, in accordance with all General Conditions of the Agreement, Special Conditions of the Agreement, Technical Specifications and Plans and in accordance with the Plans, which include all maps, plats, blueprints and other drawings and printed or written explanatory matter thereof, and the specifications therefore, together with the Contractor's written approval, and the General Conditions of the Agreement, Special Conditions of the Agreement, Technical Specifications and Plans and the Construction Bonds hereto attached, all of which are made a part hereof and collectively evidence and constitute the entire contract.

The Contractor hereby agrees to commence work within 10 days after the date written notice to do so shall have been given to him, and to substantially complete same within 60 calendar days, after the date of the written notice to commence work.

The County agrees to pay the Contractor in current funds the sum of \$ \_\_\_\_\_ (to include alternates# \_\_\_\_\_) for the performance of the Contract in accordance with the proposal submitted therefore, subject to additions and deductions as provided in the General Conditions of the Agreement, and to make payment on account thereof as provided therein.

Contractor further agrees not to do any work unless he has received a valid Purchase Order issued by Cameron County for payment of the work to be accomplished.

This instrument contains the entire agreement between the parties relating to the rights herein granted and obligations herein assumed. Any oral representations or modifications

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

concerning this instrument shall be of no force or effect, excepting a subsequent modification in writing, signed by the party to be charged. This Agreement may be amended, provided that no amendment, modification, or alteration of the terms of this agreement shall be binding unless the same is in writing and duly executed by the parties hereto.

All notices to Cameron County shall be sent by certified or registered mail, addressed to: Cameron County Judge, Cameron County Courthouse, 1100 E. Monroe, Brownsville, Texas 78520, and Cameron County Engineer, 1390 W. Expressway 83, San Benito, Texas 78586, or at such other address as the COUNTY may otherwise designate. All notices to Contractor shall be sent certified or registered mail, addressed to: \_\_\_\_\_ or at such other address as said Contractor may otherwise designate in writing.

This Agreement shall be governed by the laws of the State of Texas and venue shall be in Cameron County.

IN WITNESS WHEREOF, the parties of these presents have executed this Agreement in quadruplicate in the year and day first above written.

\_\_\_\_\_  
PARTY OF THE FIRST PART  
(Contractor)

\_\_\_\_\_  
PARTY OF THE SECOND PART  
(County)  
Eddie Treviño Jr.  
Cameron County Judge

ATTESTED BY:

Sylvia Garza Perez, County Clerk

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**NOTICE OF AWARD**

**TO:**

**PROJECT DESCRIPTION: BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement and Invitation to Bid dated \_\_\_\_\_.

You are hereby notified that your BID has been accepted in the amount of \_\_\_\_\_.

You are required by the Instructions to Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance Bond, Payment Bond and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said Bonds within ten (10) days from the date of the Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as forfeiture of your BID SECURITY. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of the NOTICE OF AWARD to the OWNER.

Dated the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

OWNER: CAMERON COUNTY

BY:

TITLE: County Engineer

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE OF AWARD is hereby acknowledged by \_\_\_\_\_, this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**Countersigned**

**BY:** \_\_\_\_\_

**Attorney-in-Fact, State of**

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the \_\_\_\_\_, \_\_\_\_\_, Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_, who signed the said bond on behalf of the Principal was then \_\_\_\_\_ of said corporation; that I know his/her signature, and his/her signature thereto is genuine; and that said bond was duly signed, sealed, and attested to, for and in behalf of said corporation by authority of this governing body.

\_\_\_\_\_  
Title

(Corporate Seal)

\* Power-of-attorney for person signing for surety company must be attached to bond.

**BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**ATTORNEY'S REVIEW CERTIFICATION**

I, the undersigned, Dylbia L. Jefferies Vega, the duly authorized and acting legal representative of the County of Cameron, Texas, do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and am of the opinion that each of the agreements may be duly executed by the proper parties, acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties; and that the agreements shall constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Attorney's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Attorney's Name: Dylbia L. Jefferies Vega



## PROJECT CLOSE-OUT CHECK LIST

**Project Name: BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**Project PO #:**

TASK DESCRIPTION

COMPLETED    DATE

A. General Requirements

- |  |       |       |
|--|-------|-------|
| <p>1. Certificate of Substantial Completion (AIA G704)<br/>(Executed by Architect/Engineer, Contractor and Owner)</p>  | _____ | _____ |
| <p>2. Inspections Certifications</p> <p style="margin-left: 20px;">a. Certificate of Occupancy<br/>(By Building Inspections Officials)</p>   | _____ | _____ |
| <p style="margin-left: 20px;">b. Copy of Building Official Inspection Card<br/>(Showing required inspection approvals)</p>   | _____ | _____ |
| <p style="margin-left: 20px;">c. Regulatory Inspection Sign-Offs (as applicable)</p> <p style="margin-left: 40px;">(1) General Contract</p> <p style="margin-left: 40px;">(2) Plumbing Subcontract</p> <p style="margin-left: 40px;">(3) Fire Protection Contract</p> <p style="margin-left: 40px;">(4) Mechanical Contract</p> <p style="margin-left: 40px;">(5) Electrical Contract</p> <p style="margin-left: 40px;">(6) Certification Reports for All Backflow Assemblies<br/>(Includes Plumbing, HVAC, Fire Protection as applicable)</p> <p style="margin-left: 40px;">(7) Well Water Quality Test Report (if applicable)</p> <p style="margin-left: 40px;">(8) Other Certifications as Required<br/>(NCDFS, NC DOT, Land Quality, Local Government, Utilities, Health Dept., Fireproofing Certification, Structural Steel Inspection Certification, etc.)</p> | _____ | _____ |
| <p>3. Closeout Reports &amp; Documentation</p> <p style="margin-left: 20px;">a. Owner Instruction and Training with Equipment<br/>and Systems</p>  | _____ | _____ |



## PROJECT CLOSE-OUT CHECK LIST

**Project Name: BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**Project PO #:**

<u>TASK DESCRIPTION</u>	<u>COMPLETED</u>	<u>DATE</u>
(Memo/List of Attendees required for each session)		
b. HVAC Test and Balance Report (Approval cover letter from Architect/Engineer required)	_____	_____
c. Attic Stock Turnover (Transfer to Owner with Typed Inventory Required)	_____	_____
d. Keys & Permanent Hardware Changeover (Delivery of Final Keys and Cabinet to Owner; Memo of Hardware Changeover Date)	_____	_____
e. Insurance Coverage Change Over	_____	_____
f. Utility Account Change Over		
(1) Electric Service	_____	_____
(2) Gas Service	_____	_____
(3) Water Service	_____	_____
(4) Other Utility Service	_____	_____
<b>B. Record Document Requirements</b>		
1. As-built drawings (as applicable)		
a. Site/Civil	_____	_____
b. Architectural & Structural	_____	_____
c. Plumbing	_____	_____
d. Fire Protection	_____	_____
e. Mechanical	_____	_____
f. Electrical	_____	_____
g. Security	_____	_____
h. Other (Kitchen Equipment, etc.)	_____	_____



## PROJECT CLOSE-OUT CHECK LIST

**Project Name: BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**Project PO #:**

<u>TASK DESCRIPTION</u>	<u>COMPLETED</u>	<u>DATE</u>
2. Final Finish Schedule (updated with actual finishes and bound in with O+M Manual)	_____	_____
3. Operation & Maintenance (O+M) Manuals (Approval cover letter from Designer required)	_____	_____
a. Product & Operations Data	_____	_____
b. Maintenance Information	_____	_____
c. Product Warranty Certificates/Maintenance Agreements	_____	_____
4. Shop Drawings - Complete Set (With Architect's Review Stamp)	_____	_____
5. Construction Site Documentation (Contractor's Job Log and Photographs)	_____	_____
C. Final Accounting Requirements - by Contractor		
1. Affidavit of Release of Liens (AIA G706A)	_____	_____
2. Affidavit of Payment of Debts and Claims (AIA G706)	_____	_____
3. Consent of Surety to Final Payment (AIA G707)	_____	_____
4. Final Request for Payment Certified by Architect/Engineer	_____	_____
D. Final Accounting Requirements - by Architect/Engineer		
1. Cover Letter of Approval of Roof Warranty	_____	_____
2. Cover Letter of Approval for O&M Manuals	_____	_____



## PROJECT CLOSE-OUT CHECK LIST

**Project Name: BID # 260103 CENTRAL ESTATES-SALDIVAR COLONIAS IN BROWNSVILLE TEXAS - WATER-SEWER-LINE IMPROVEMENTS CONSTRUCTION (HUD) TXCDBG PROJECT NO. CFC24-0004**

**Project PO #:**

<u>TASK DESCRIPTION</u>	<u>COMPLETED</u>	<u>DATE</u>
3. Certification by Architect of Completed Final Punch List	_____	_____
4. Final Completion Certificate executed by Architect/Engineer	_____	_____
5. Final Liquidated Damages analysis by Architect/Engineer	_____	_____
6. Record Drawings (electronic CAD files +set of pdf files + 3 reproducible sets of all drawings based on Contractor As-Built)	_____	_____
7. Certification of Project Compliance	_____	_____
8. MSDS Asbestos Free Building Letter	_____	_____

### E. Warranty Period

- |   |       |       |
|---|-------|-------|
| 1. Pre-Expiration Warranty Inspection<br>(Inspection 30 days prior to warranty expiration date) | _____ | _____ |
|---|-------|-------|

### F. Cameron County requirements

- |   |       |       |
|---|-------|-------|
| 1. Final Payment Requires Commission Approval.  | _____ | _____ |
| 2. TDLR Accessibility Compliance Letter from<br>Registered Accessibility Specialist (RAS)   | _____ | _____ |
| 3. Windstorm Certification – Flood Zone Certification, if required in<br>Zone A designated areas for new buildings and additions                              | _____ | _____ |
| 4. Required Training documentation/logs, complete with sign in<br>sheets on personnel present for Elevators and Boilers,<br>TDLR certification of Inspection. | _____ | _____ |

## REQUIRED CONTRACT CLAUSES FOR CONTRACTS UNDER FEDERAL AWARD

### 2 C.F.R. § 200.327 & 2 C.F.R. PART 200, APPENDIX II, REQUIRED CONTRACT CLAUSES FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS

The United States Office of Management and Budget (OMB) issued in 2 C.F.R. 200: *Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards* (Uniform Guidance). Subpart D: Post Federal Award Requirements: 2 CFR §§200.317-200.327 of the Uniform Guidance contain provisions applicable to procurements made with federal grant funding. [Except as otherwise provided, updated Post Federal Award Requirements (i.e.: 2 CFR §§200.317-200.327) apply to declarations and awards issued on or after November 12, 2020]. <https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200#subject-group-ECFR45ddd4419ad436d> See Appendix "B"

As a non-Federal entity, the County of Cameron's ("County") contracts must contain the applicable contract clauses described in Appendix II to the Uniform Guidance (Contract Provisions for non-Federal Entity Contracts Under Federal Awards), which are set forth below. (2 C.F.R. §200.327). If applicable, the following clauses shall supersede any existing, similar clauses stated within the bid document, contract, and/or Terms and Conditions. *The term "Contractor" used herein refers to the proposer, bidder or other entity/individual responding to the applicable procurement packet.*

***If applicable, the regulations in 2 CFR, Part 200 and Appendix II to the Uniform Guidance, as it may be amended from time to time, and the contract clauses below, are incorporated by reference as part of this procurement packet and any resulting agreement.***

To procure goods and services using funds under a federal grant or contract, specific federal laws, regulations, and requirements may apply in addition to those under state law. The following provisions are required and apply when federal funds are expended by the County of Cameron for any contract resulting from this procurement process.

#### 1. Remedies.

- a. Applicability. This requirement applies to all Federal grant and cooperative agreement programs.
- b. Standard. Contracts for more than the simplified acquisition threshold currently set at \$150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate. See 2 C.F.R. Part 200, Appendix II, A.
- c. Statement. Pursuant to Federal Rule (A) above, when federal funds are expended by the County, the County reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party. Contractor shall comply with all applicable Federal, State of Texas, and local laws, rules, and regulations and shall obtain all applicable licenses and permits for the conduct of its business and the performance of the services, and any provision of equipment and material ("Applicable Law"). All transactions related to any of the Contract Documents shall be governed by the laws of the State of Texas, and trial of any action brought in connection with the bid or the Contract Documents shall be held exclusively in a state court in the County of Cameron, Texas.

## **2. Termination for Cause and Convenience.**

- a. **Applicability.** This requirement applies to all Federal grant and cooperative agreement programs.
- b. **Standard.** All contracts in excess of \$10,000 shall address termination for cause and for convenience by the non-Federal entity including the manner by which it will be affected and the basis for settlement as follows. See 2 C.F.R. Part 200, Appendix II, B.
- c. **Statement. Termination.** County may terminate this Agreement for any reason upon ten (10) days written notice to the other party. County may terminate this Agreement immediately upon written notice if Contractor breaches this Agreement. In the event of any termination, Contractor shall promptly deliver to the County any and all Work Materials prepared for the County prior to the effective date of such termination, all of which shall become County's sole property. After receipt of the Work Materials, County will pay Contractor for the services which the County determines were satisfactorily performed as of the effective date of the termination.

*Excuses for Non-Performance.* Either party shall be absolved from its obligations under this contract when and to the extent that performance is delayed or prevented (and in the County of Cameron's case when and to the extent that its need for the articles, materials or work to be supplied hereunder is reduced or eliminated) by reason of acts of God, fire explosion, war riots, strikes, labor disputes, or governmental laws, orders or regulations.

*Default.* If Contractor or Subcontractor shall breach any provision hereof or shall become insolvent, enter voluntary or involuntary bankruptcy or receivership proceedings or make an assignment to the benefit of creditors, County of Cameron shall have the right (without limiting any other rights or remedies which it may have hereunder or by operation of law) to terminate this contract by written notice to Contractor whereupon County shall be relieved of all further obligation hereunder except the obligation to pay the reasonable value of Contractor's prior performance (at not exceeding the contract rate), and Contractor shall be liable to County for all costs incurred by County in completing or procuring the completion of performance in excess of the contract price herein specified. The County's right to require strict performance of any obligation hereunder shall not be affected by any previous waiver, forbearance of course of dealing. Time is of the essence thereof.

## **3. Equal Employment Opportunity.**

- a. **Applicability:** This requirement applies to all Federal grant and cooperative agreement programs.
- b. **Standard.** Except as otherwise provided under 41 C.F.R. Part 60, all contracts that meet the definition of "*federally assisted construction contract*" in 41 C.F.R. § 60-1.3 must include the equal opportunity clause provided under 41 C.F.R. § 60- 1.4(b), in accordance with Executive Order 11246, *Equal Employment Opportunity* (30 Fed. Reg. 12319, 12935, 3 C.F.R. Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, *Amending Executive Order 11246 Relating to Equal Employment Opportunity*, and implementing regulations at 41 C.F.R. Part 60 (Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor). See 2 C.F.R. Part 200, Appendix II, C.

### c. **Key Definitions:**

- (1) ***Federally Assisted Construction Contract.*** The regulation at 41 C.F.R. § 60-1.3 defines a "federally assisted construction contract" as any agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved

by the Government for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work.

(2) *Construction Work*. The regulation at 41 C.F.R. § 60-1.3 defines “construction work” as the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction

d. Statement: Contractor will comply with the Nondiscrimination Civil Rights Act of 1964, as amended and all Federal regulations relative to nondiscrimination in Federally assisted programs. The regulation at 41 C.F.R. Part 60-1.4(b) requires the insertion of the following contract clause:

“During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: 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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract

or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.”

#### **4. Davis Bacon Act and Copeland Anti-Kickback Act.**

- a. Applicability of Davis-Bacon Act. The Davis-Bacon Act only applies to the emergency Management Preparedness Grant Program, Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program. **It does not apply to other Federal grant and cooperative agreement programs, including the Public Assistance Program.**
- b. Standard. All prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3144 and 3146-3148) as supplemented by Department of Labor regulations at 29 C.F.R. Part 5 (Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction).

In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week.

The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

In contracts subject to the Davis-Bacon Act, the contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations at 29 C.F.R. Part 3 (Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States). The Copeland Anti-Kickback Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to FEMA or applicable Federal entity. See 29 C.F.R. Part 200, Appendix II, ¶ D.

- c. Statement. The regulation at 29 C.F.R. § 5.5(a) does provide the required contract clause that applies to compliance with both the Davis-Bacon and Copeland Acts. **However, as discussed in the previous subsection, the Davis-Bacon Act does not apply to Public Assistance recipients and subrecipients.** In situations where the Davis-Bacon Act does not apply, neither does the Copeland “Anti-Kickback Act.” However, for purposes of grant programs where both clauses do apply, FEMA or applicable Federal entity requires the following contract clause:

“Compliance with the Copeland “Anti-Kickback” Act.

- (1) *Contractor.* The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
- (2) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as Federal requirements 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 of these contract clauses.
- (3) *Breach.* A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.”

## 5. **Contract Work Hours and Safety Standards Act.**

- a. **Applicability:** This requirement applies to all Federal grant and cooperative agreement programs.
- b. **Standard.** Where applicable (see 40 U.S.C. § 3701), all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as supplemented by Department of Labor regulations at 29 C.F.R. Part 5.

Under 40 U.S.C. § 3702, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week.

The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence. See 2 C.F.R. Part 200, Appendix II, E.

The regulation at 29 C.F.R. § 5.5(b) provides the required contract clause concerning compliance with the Contract Work Hours and Safety Standards Act:

- c. **Statement.**

**“Compliance with the Contract Work Hours and Safety Standards Act.**

- (1) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with

respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

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

(4) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.”

## **6. Rights to Inventions Made Under a Contract or Agreement.**

- a. **Applicability: Stafford Act Disaster Grants.** This requirement **does not apply to the Public Assistance.** Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA or Federal awards under these programs do not meet the definition of “funding agreement.”
- b. **Standard.** If the FEMA or Federal award meets the definition of “funding agreement” under 37 C.F.R. § 401.2(a) and the non-Federal entity wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the non-Federal entity must comply with the requirements of 37 C.F.R. Part 401 (Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements), and any implementing regulations issued by FEMA or applicable awarding agency. See 2 C.F.R. Part 200, Appendix II, F.
- c. **Key Definition:** The regulation at 37 C.F.R. § 401.2(a) currently defines “funding agreement” as any contract, grant, or cooperative agreement entered into between any Federal agency, other than the County of Cameron, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph.

## **7. Clean Air Act and the Federal Water Pollution Control Act.**

- a. **Applicability and Standard:** Contracts of amounts in excess of \$150,000 must contain a provision that requires the contractor to agree 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 awarding agency and the Regional Office of the Environmental Protection Agency. See 2 C.F.R. Part 200, Appendix II, G.
- b. **Statement:** Included in contracts as provided in section “7a” above.

- (1) The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. and the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- (2) The contractor agrees to report each violation to the Federal awarding agency (e.g. Federal Emergency Management Agency-FEMA) and the Regional Office of the Environmental Protection Agency. Contractor understands and agrees that each violation reported to the County of Cameron will, in turn, be reported as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection Agency Regional Office.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by the applicable Federal awarding agency (e.g. FEMA).

## **8. Debarment and Suspension.**

- a. **Applicability:** This requirement applies to all Federal grant and cooperative agreement programs.
- b. **Standard.** Non-Federal entities and contractors are subject to the debarment and suspension regulations implementing Executive Order 12549, *Debarment and Suspension* (1986) and Executive Order 12689, *Debarment and Suspension* (1989) at 2 C.F.R. Part 180 and the Department of Homeland Security's regulations at 2 C.F.R. Part 3000 (Non-procurement Debarment and Suspension).

These regulations restrict awards, subawards, and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs and activities. See 2 C.F.R. Part 200, Appendix II, H; and Chapter IV, 6.d and Appendix C, 2. A contract award must not be made to parties listed in the SAM Exclusions. SAM Exclusions is the list maintained by the General.

Services Administration that contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. SAM exclusions can be accessed at [www.sam.gov](http://www.sam.gov) See 2 C.F.R. § 180.530; Chapter IV, 6.d and Appendix C, 2.

In general, an "excluded" party cannot receive a Federal grant award or a contract within the meaning of a "covered transaction," to include subawards and subcontracts. This includes parties that receive Federal funding indirectly, such as contractors to recipients and subrecipients. The key to the exclusion is whether there is a "covered transaction," which is any non-procurement transaction (unless excepted) at either a "primary" or "secondary" tier. Although "covered transactions" do not include contracts awarded by the Federal Government for purposes of the non-procurement common rule and DHS's implementing regulations, it does include some contracts awarded by recipients and subrecipient.

Specifically, a covered transaction includes the following contracts for goods or services:

- (1) The contract is awarded by a recipient or subrecipient in the amount of at least \$25,000.
- (2) The contract requires the approval of FEMA or applicable Federal entity, regardless of amount.
- (3) The contract is for Federally-required audit services.
- (4) A subcontract is also a covered transaction if it is awarded by the contractor of a recipient or subrecipient and requires either the approval of FEMA or applicable Federal entity or is in excess of \$25,000.

- c. Statement. The following provides a debarment and suspension clause. It incorporates a method of verifying that contractors are not excluded or disqualified:

For maximum protection, provide a print or electronic document for every prime and subcontractor, from [www.sam.gov](http://www.sam.gov) in order to ensure that they are not debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs and activities.

This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such the contractor is required to verify that none of the contractor, its principals (defined at 2 C.F.R. §180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

This certification is a material representation of fact relied upon by (insert name of subrecipient). If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to (name of state City serving as recipient and name of subrecipient), the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.”

#### **9. Byrd Anti-Lobbying Amendment.**

- a. Applicability: This requirement applies to all Federal grant and cooperative agreement programs.
- b. Standard. Contractors that apply or bid for an award of \$100,000 or more must file the required certification. See 2 C.F.R. Part 200, Appendix II, I; 44 C.F.R. Part 18; Chapter IV, 6.c; Appendix C, 4. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any City, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. See Chapter IV, 6.c and Appendix C, 4.
- c. Statement. The following statement in bold provides a Byrd Anti-Lobbying contract clause:

(IF APPLICABLE, PLEASE FILL IN BLANKS AND SIGN)

“Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended)

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.”

**APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION**

**REGARDING LOBBYING Certification for Contracts, Grants,**

**Loans, and Cooperative Agreements**

**(To be submitted with each bid or offer exceeding \$100,000)**

The undersigned Contractor, \_\_\_\_\_  
certifies, to the best of his or her knowledge, that:

1. 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 an 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.

2. 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 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.

3. 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 31, U.S.C. § 1352 (as amended by the Lobbying

Disclosure Act of 1995). 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.

The Contractor, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq.*, apply to this certification and disclosure, if any.

\_\_\_\_\_  
Signature of Contractor's Authorized Official

\_\_\_\_\_  
Name and Title of Contractor's Authorized Official

\_\_\_\_\_  
Date

10. **Procurement of Recovered Materials.**

- a. **Applicability:** This requirement applies to all Federal grant and cooperative agreement programs.
- b. **Standard.** A non-Federal entity that is a **state agency or agency of a political subdivision** of a state and its contractors must comply with Section 6002 of the Solid Waste Disposal Act, Pub. L. No. 89-272 (1965) (codified as amended by the Resource Conservation and Recovery Act at 42 U.S.C. § 6962). See 2 C.F.R. Part 200, Appendix II, ¶ J; 2 C.F.R. § 200.323; *PDAT Supplement*, Chapter V, 7.

The requirements of Section 6002 include procuring only items designated in guidelines of the EPA at 40 C.F.R. Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

- c. **Statement.** The following provides the clause that a state agency or agency of a political subdivision of a state and its contractors can include in contracts meeting the above contract thresholds:

- (1) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA- designated items unless the product cannot be acquired—
  - (i) Competitively within a timeframe providing for compliance with the contract performance schedule;
  - (ii) Meeting contract performance requirements; or
  - (iii) At a reasonable price.
- (2) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.
- (3) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.”

11. **Prohibition on Contracting for Covered Telecommunications Equipment or Services – 2 CFR § 200.216 (FEMA Interim Policy #405-143-1 effective August 13, 2020).**

- a. **Applicability:** This requirement applies to all Federal grant and cooperative agreement programs and/or as provided below, and is effective August 13, 2020.
- b. **Standard.** A non-Federal entity is prohibited against using federal funds to purchase telecommunications and video surveillance equipment and services (such as but not limited to mobile phones, land lines, internet, video surveillance, and cloud servers) from certain companies/entities in covered foreign countries for national security reasons. This regulation is being incorporated into federal grants and contracts received by the County through 2 CFR 200.216 and/or Federal Acquisition Regulations (FAR) clause 52.204-25; as well as guidance provided through Federal Emergency Management Agency (FEMA) Policy #405-143-1. See 2 C.F.R. Part 200, Appendix II, ¶ K

Currently, applicable federal provisions provide that Covered Foreign country means the People's Republic of China and covered telecommunications equipment or services means

- i. Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation, (or any subsidiary or affiliate of such entities);

- ii. For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);
- iii. Telecommunications or video surveillance services provided by such entities or using such equipment; or
- iv. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of 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.

The definition of “Affiliate” can be found in FAR 2.101. Listing of subsidiaries and affiliates can be found in Supplement Number 4 to 15 CFR Part 744.

- c. Statement. Federal awards recipients and subrecipients, as well as their contractors and subcontractors, include the following required contract clause in applicable new, extended, or renewed contracts and subcontracts as per the provisions discussed above.

## PROHIBITION ON CONTRACTING FOR COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES

(a) Definitions. As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy, #405-143-1 Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services As used in this clause

(b) Prohibitions.

(1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug.13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(2) Unless an exception in paragraph (c) of this clause applies, the contractor and its subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Emergency Management Agency to:

(i) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(ii) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(iii) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system; or

(iv) Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(c) Exceptions.

(1) This clause does not prohibit contractors from providing—

a. A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

b. Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) By necessary implication and regulation, the prohibitions also do not apply to:

a. Covered telecommunications equipment or services that:

i. Are not used as a substantial or essential component of any system; and

ii. Are not used as critical technology of any system.

b. Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

(d) Reporting requirement.

(1) In the event the contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the contractor is notified of such by a subcontractor at any tier or by any other source, the contractor shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in this contract are established procedures for reporting the information.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) Subcontracts. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments.

## 12. Domestic Preferences for Procurements

- a. Applicability: This requirement of this section must be included in all subawards including all contracts and purchase orders for work or products under Federal award applies to all contracts and purchase orders for work or products using federal funds.
- b. Standard. As appropriate, and to the extent consistent with law, Non-Federal Entities should, to the greatest extent practicable under a federal award, provide a preference for the purchase, acquisition, or use of goods, products or materials produced in the United States. This includes, but is not limited to, iron, aluminum, steel, cement, and other manufactured products. See 2 C.F.R. Part 200.322 and 2 C.F.R. Part 200, Appendix II, L
- c. Statement. The following provides the required Domestic Preferences for Procurements contracts clause that is incorporated herein by reference.

### “Domestic Preference for Procurements

As appropriate, and to the extent consistent with law, the contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.

For purposes of this clause:

- *Produced in the United States* means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- *Manufactured products* mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.”

## ADDITIONAL REQUIRED CONTRACT CLAUSES FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS WITH THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

Additional FEMA or applicable Federal Requirements. In addition to the requirements above, non-Federal entity contracts under Federal award subject to financial assistance from FEMA are required to contain the following additional contract clauses. The Uniform Guidance authorizes FEMA to require additional provisions for non-Federal entity contracts. FEMA, pursuant to this authority, requires or recommends the following:

***These clauses are incorporated by reference as part of this procurement packet and any resulting agreement.***

### 1. Changes.

- a. Standard. To be eligible for FEMA assistance under the non-Federal entity’s Federal grant or cooperative agreement, the cost of the change, modification, change order, or constructive change must be allowable, allocable, within the scope of its grant or cooperative agreement, and reasonable for the completion of project scope. FEMA or applicable Federal entity recommends, therefore, that a non-Federal entity include a changes clause in its contract that describes how, if at all, changes can be made by either party to alter the method, price, or schedule of the work without breaching the contract. The language of the clause may differ depending on the nature of the contract and the end-item procured.
- b. Statement. The following provides a contract clause regarding access to records:

“The contractor shall secure written authorization before proceeding with any additional work, whether requested by the County or required to complete the contract. The cost for any changes to the contract price, whether requested by the

County or the Contractor will be approved only after submitting the contractor's true costs for the work and related equipment costs and site expenses."

**2. Access to Records.**

- a. Standard. All non-Federal entities must place into their contracts a provision that all contractors and their successors, transferees, assignees, and subcontractors acknowledge and agree to comply with applicable provisions governing Department and FEMA or applicable Federal entity access to records, accounts, documents, information, facilities, and staff. See DHS Standard Terms and Conditions, v 3.0, XXVI (2013).
- b. Statement. The following provides a contract clause regarding access to records:

"Access to Records. The following access to records requirements applies to this contract:

- (1) The contractor agrees to provide the City of Concord, the FEMA or applicable Federal Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
- (2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- (3) The contractor agrees to provide the FEMA or applicable Federal Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract."

**3. DHS Seal, Logo, and Flags.**

- a. Standard. All non-Federal entities must place in their contracts a provision that a contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS City officials without specific FEMA or applicable Federal entity pre-approval. See DHS Standard Terms and Conditions, v3.0, XXV (2013).
- b. Statement. The following provides a contract clause regarding DHS Seal, Logo, and Flags:

"The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS City officials without specific FEMA or applicable Federal entity pre- approval."

**4. Compliance with Federal Law, Regulations, and Executive Orders.**

- a. Standard. All non-Federal entities must place into their contracts an acknowledgement that FEMA or applicable Federal financial assistance will be used to fund the contract along with the requirement that the contractor will comply with all applicable Federal law, regulations, executive orders, and FEMA or applicable Federal policies, procedures, and directives.
- b. Statement. The following provides a contract clause regarding Compliance with Federal Law, Regulations and Executive Orders:

"This is an acknowledgement that Federal financial assistance will be used to fund the contract only. The contractor will comply will all applicable Federal law, regulations, executive orders, FEMA or applicable Federal policies, procedures, and directives."

5. **No Obligation by Federal Government.**

- a. Standard. The non-Federal entity must include a provision in its contract that states that the Federal Government is not a party to the contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.
- b. Statement. The following provides a contract clause regarding no obligation by the Federal Government:

“The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.”

6. **Program Fraud and False or Fraudulent Statements or Related Acts.**

- a. Standard. The non-Federal entity must include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.
- b. Statement. The following provides a contract clause regarding Fraud and False or Fraudulent Related Acts:

“The contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the contractor’s actions pertaining to this contract.”

7. **FEMA Contract requirement regarding Prohibition on Contracting for Covered Telecommunications Equipment or Services – 2 CFR § 200.216 (FEMA Interim Policy #405-143-1 effective August 13, 2020).**

FEMA recipients and subrecipients and their contractors and subcontractors are required per 2 C.F.R. Part 200, Appendix II K to include a contract provision in all FEMA-funded contracts and subcontracts, including any purchase orders. To satisfy this requirement, the contract provision found in Number 11 above is incorporated by reference by the County of Cameron in all new, extended, or renewed contracts and subcontracts. Applicable County contractors and subcontractors shall also comply with the applicable law and requirements. (See Number 11 above).

**8. FEMA Contract requirement regarding Domestic Preferences for Procurements**

For purchases in support of FEMA declarations and awards issued on or after November 12, 2020, all FEMA recipients and subrecipients are required per 2 C.F.R. Part 200, Appendix II ¶ L to include in all contracts and purchase orders for work or products the contract provision included in number 12 above encouraging domestic preference for procurements.

**Contractor agrees to comply with all federal, state and local laws, rules, regulations and ordinances, as applicable. It is further acknowledged that the Contractor read and understands all provisions, laws, acts, regulations, etc. as specifically noted above and certifies compliance with the same.**

Vendor's Name/Company Name:

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Printed Name and Title of Authorized Representative:

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Signature of Authorized Representative:

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Date: \_\_\_\_\_

# Appendix A

## FHWA 1273

### I. General

II. Nondiscrimination III. No segregated Facilities  
FHWA-1273 -- Revised May 1, 2012

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

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

- 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. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### 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 (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).

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.

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). 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 bid proposal or request for proposal 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).

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.

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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### **II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.
  - 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, 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 who 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.
  - 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, national origin, age or disability. The following procedures shall be followed:

- a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

- a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
- b. The contractor 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 contracting agency deems appropriate.

**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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

- a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the

employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
- (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 utilized 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) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

## Super Circular – Procurement Standards 2 CFR Parts 200.317 – 200.327

**Procurement Standards** <https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200#subject-group-ECFR45ddd4419ad436d>

### § 200.317 Procurements by states.

When procuring property and services under a Federal award, a State must follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will comply with [§§ 200.321](#), [200.322](#), and [200.323](#) and ensure that every purchase order or other contract includes any clauses required by [§ 200.327](#). All other non-Federal entities, including subrecipients of a State, must follow the procurement standards in [§§ 200.318](#) through [200.327](#).

### § 200.318 General procurement standards.

- (a) The non-Federal entity must have and use documented procurement procedures, consistent with State, local, and tribal laws and regulations and the standards of this section, for the acquisition of property or services required under a Federal award or subaward. The non-Federal entity's documented procurement procedures must conform to the procurement standards identified in [§§ 200.317](#) through [200.327](#).
- (b) Non-Federal entities must maintain oversight to ensure that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.
- (c)
  - (1) The non-Federal entity must maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award and administration of contracts. No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a Federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract. The officers, employees, and agents of the non-Federal entity may neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. However, non-Federal entities may set standards for situations in which the financial interest is not substantial or the gift is an unsolicited item of nominal value. The standards of conduct must provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the non-Federal entity.
  - (2) If the non-Federal entity has a parent, affiliate, or subsidiary organization that is not a State, local government, or Indian tribe, the non-Federal entity must also maintain written standards of conduct covering organizational conflicts of interest. Organizational conflicts of interest means that because of relationships with a parent company, affiliate, or subsidiary organization, the non-Federal entity is unable or appears to be unable to be impartial in conducting a procurement action involving a related organization.
- (d) The non-Federal entity's procedures must avoid acquisition of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.
- (e) To foster greater economy and efficiency, and in accordance with efforts to promote cost-effective use of shared services across the Federal Government, the non-Federal entity is encouraged to enter into state and local intergovernmental agreements or inter-entity agreements where appropriate for procurement or use of common or shared goods and services. Competition requirements will be met with documented procurement actions using strategic sourcing, shared services, and other similar procurement arrangements.
- (f) The non-Federal entity is encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(g) The non-Federal entity is encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(h) The non-Federal entity must award contracts only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources. See also [§ 200.214](#).

(i) The non-Federal entity must maintain records sufficient to detail the history of procurement. These records will include, but are not necessarily limited to, the following: Rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(j)

(1) The non-Federal entity may use a time-and-materials type contract only after a determination that no other contract is suitable and if the contract includes a ceiling price that the contractor exceeds at its own risk. Time-and-materials type contract means a contract whose cost to a non-Federal entity is the sum of:

(i) The actual cost of materials; and

(ii) Direct labor hours charged at fixed hourly rates that reflect wages, general and administrative expenses, and profit.

(2) Since this formula generates an open-ended contract price, a time-and-materials contract provides no positive profit incentive to the contractor for cost control or labor efficiency. Therefore, each contract must set a ceiling price that the contractor exceeds at its own risk. Further, the non-Federal entity awarding such a contract must assert a high degree of oversight in order to obtain reasonable assurance that the contractor is using efficient methods and effective cost controls.

(k) The non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the non-Federal entity of any contractual responsibilities under its contracts. The Federal awarding agency will not substitute its judgment for that of the non-Federal entity unless the matter is primarily a Federal concern. Violations of law will be referred to the local, state, or Federal authority having proper jurisdiction.

[[85 FR 49543](#), Aug. 13, 2020, as amended at [86 FR 10440](#), Feb. 22, 2021]

#### **§ 200.319 Competition.**

(a) All procurement transactions for the acquisition of property or services required under a Federal award must be conducted in a manner providing full and open competition consistent with the standards of this section and [§ 200.320](#).

(b) In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals must be excluded from competing for such procurements. Some of the situations considered to be restrictive of competition include but are not limited to:

(1) Placing unreasonable requirements on firms in order for them to qualify to do business;

(2) Requiring unnecessary experience and excessive bonding;

(3) Noncompetitive pricing practices between firms or between affiliated companies;

(4) Noncompetitive contracts to consultants that are on retainer contracts;

(5) Organizational conflicts of interest;

(6) Specifying only a “brand name” product instead of allowing “an equal” product to be offered and describing the performance or other relevant requirements of the procurement; and

(7) Any arbitrary action in the procurement process.

(c) The non-Federal entity must conduct procurements in a manner that prohibits the use of statutorily or administratively imposed state, local, or tribal geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts state licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criterion provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(d) The non-Federal entity must have written procedures for procurement transactions. These procedures must ensure that all solicitations:

(1) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description must not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, must set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a “brand name or equivalent” description may be used as a means to define the performance or other salient requirements of procurement. The specific features of the named brand which must be met by offers must be clearly stated; and

(2) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(e) The non-Federal entity must ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, the non-Federal entity must not preclude potential bidders from qualifying during the solicitation period.

(f) Noncompetitive procurements can only be awarded in accordance with [§ 200.320\(c\)](#).

#### **[§ 200.320 Methods of procurement to be followed.](#)**

The non-Federal entity must have and use documented procurement procedures, consistent with the standards of this section and [§§ 200.317](#), [200.318](#), and [200.319](#) for any of the following methods of procurement used for the acquisition of property or services required under a Federal award or sub-award.

(a) ***Informal procurement methods.*** When the value of the procurement for property or services under a Federal award does not exceed the *simplified acquisition threshold (SAT)*, as defined in [§ 200.1](#), or a lower threshold established by a non-Federal entity, formal procurement methods are not required. The non-Federal entity may use informal procurement methods to expedite the completion of its transactions and minimize the associated administrative burden and cost. The informal methods used for procurement of property or services at or below the SAT include:

##### **(1) *Micro-purchases* -**

(i) ***Distribution.*** The acquisition of supplies or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (See the definition of *micro-purchase* in [§ 200.1](#)). To the maximum extent practicable, the non-Federal entity should distribute micro-purchases equitably among qualified suppliers.

(ii) ***Micro-purchase awards.*** Micro-purchases may be awarded without soliciting competitive price or rate quotations if the non-Federal entity considers the price to be reasonable based on research, experience, purchase history or other information and documents it files accordingly. Purchase cards can be used for micro-purchases if procedures are documented and approved by the non-Federal entity.

(iii) ***Micro-purchase thresholds.*** The non-Federal entity is responsible for determining and documenting an appropriate micro-purchase threshold based on internal controls, an evaluation of risk, and its documented procurement procedures. The micro-purchase threshold used by the non-Federal entity must be authorized or not prohibited under State, local, or tribal laws or regulations. Non-Federal entities may establish a threshold higher than the Federal threshold established in the Federal Acquisition Regulations (FAR) in accordance with [paragraphs \(a\)\(1\)\(iv\)](#) and [\(v\)](#) of this section.

(iv) ***Non-Federal entity increase to the micro-purchase threshold up to \$50,000.*** Non-Federal entities may establish a threshold higher than the micro-purchase threshold identified in the FAR in accordance with the requirements of this section. The non-Federal entity may self-certify a threshold up to \$50,000 on an annual basis and must maintain documentation to be made available to the Federal awarding agency and auditors in accordance with [§ 200.334](#). The self-

certification must include a justification, clear identification of the threshold, and supporting documentation of any of the following:

- (A) A qualification as a low-risk auditee, in accordance with the criteria in [§ 200.520](#) for the most recent audit;
- (B) An annual internal institutional risk assessment to identify, mitigate, and manage financial risks; or,
- (C) For public institutions, a higher threshold consistent with State law.

(v) **Non-Federal entity increase to the micro-purchase threshold over \$50,000.** Micro-purchase thresholds higher than \$50,000 must be approved by the cognizant agency for indirect costs. The non-federal entity must submit a request with the requirements included in [paragraph \(a\)\(1\)\(iv\)](#) of this section. The increased threshold is valid until there is a change in status in which the justification was approved.

(2) **Small purchases -**

(i) **Small purchase procedures.** The acquisition of property or services, the aggregate dollar amount of which is higher than the micro-purchase threshold but does not exceed the simplified acquisition threshold. If small purchase procedures are used, price or rate quotations must be obtained from an adequate number of qualified sources as determined appropriate by the non-Federal entity.

(ii) **Simplified acquisition thresholds.** The non-Federal entity is responsible for determining an appropriate simplified acquisition threshold based on internal controls, an evaluation of risk and its documented procurement procedures which must not exceed the threshold established in the FAR. When applicable, a lower simplified acquisition threshold used by the non-Federal entity must be authorized or not prohibited under State, local, or tribal laws or regulations.

(b) **Formal procurement methods.** When the value of the procurement for property or services under a Federal financial assistance award exceeds the SAT, or a lower threshold established by a non-Federal entity, formal procurement methods are required. Formal procurement methods require following documented procedures. Formal procurement methods also require public advertising unless a non-competitive procurement can be used in accordance with [§ 200.319](#) or [paragraph \(c\)](#) of this section. The following formal methods of procurement are used for procurement of property or services above the simplified acquisition threshold or a value below the simplified acquisition threshold the non-Federal entity determines to be appropriate:

(1) **Sealed bids.** A procurement method in which bids are publicly solicited and a firm fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bids method is the preferred method for procuring construction, if the conditions.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

- (A) A complete, adequate, and realistic specification or purchase description is available;
- (B) Two or more responsible bidders are willing and able to compete effectively for the business; and
- (C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

- (A) Bids must be solicited from an adequate number of qualified sources, providing them sufficient response time prior to the date set for opening the bids, for local, and tribal governments, the invitation for bids must be publicly advertised;
- (B) The invitation for bids, which will include any specifications and pertinent attachments, must define the items or services in order for the bidder to properly respond;
- (C) All bids will be opened at the time and place prescribed in the invitation for bids, and for local and tribal governments, the bids must be opened publicly;
- (D) A firm fixed price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs must be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(2) **Proposals.** A procurement method in which either a fixed price or cost-reimbursement type contract is awarded. Proposals are generally used when conditions are not appropriate for the use of sealed bids. They are awarded in accordance with the following requirements:

(i) Requests for proposals must be publicized and identify all evaluation factors and their relative importance. Proposals must be solicited from an adequate number of qualified offerors. Any response to publicized requests for proposals must be considered to the maximum extent practical;

(ii) The non-Federal entity must have a written method for conducting technical evaluations of the proposals received and making selections;

(iii) Contracts must be awarded to the responsible offeror whose proposal is most advantageous to the non-Federal entity, with price and other factors considered; and

(iv) The non-Federal entity may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby offeror's qualifications are evaluated and the most qualified offeror is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms that are a potential source to perform the proposed effort.

(c) **Noncompetitive procurement.** There are specific circumstances in which noncompetitive procurement can be used. Noncompetitive procurement can only be awarded if one or more of the following circumstances apply:

(1) The acquisition of property or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (see [paragraph \(a\)\(1\)](#) of this section);

(2) The item is available only from a single source;

(3) The public exigency or emergency for the requirement will not permit a delay resulting from publicizing a competitive solicitation;

(4) The Federal awarding agency or pass-through entity expressly authorizes a noncompetitive procurement in response to a written request from the non-Federal entity; or

(5) After solicitation of a number of sources, competition is determined inadequate.

#### **§ 200.321 Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms.**

(a) The non-Federal entity must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

(b) Affirmative steps must include:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and

(6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in [paragraphs \(b\)\(1\)](#) through [\(5\)](#) of this section.

### **§ 200.322 Domestic preferences for procurements.**

(a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference 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 requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

(b) For purposes of this section:

(1) “Produced in the United States” means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) “Manufactured products” means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

### **§ 200.323 Procurement of recovered materials.**

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at [40 CFR part 247](#) that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

### **§ 200.324 Contract cost and price.**

(a) The non-Federal entity must perform a cost or price analysis in connection with every procurement action in excess of the Simplified Acquisition Threshold including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, the non-Federal entity must make independent estimates before receiving bids or proposals.

(b) The non-Federal entity must negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration must be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(c) Costs or prices based on estimated costs for contracts under the Federal award are allowable only to the extent that costs incurred or cost estimates included in negotiated prices would be allowable for the non-Federal entity under [subpart E of this part](#). The non-Federal entity may reference its own cost principles that comply with the Federal cost principles.

(d) The cost plus a percentage of cost and percentage of construction cost methods of contracting must not be used.

### **§ 200.325 Federal awarding agency or pass-through entity review.**

(a) The non-Federal entity must make available, upon request of the Federal awarding agency or pass-through entity, technical specifications on proposed procurements where the Federal awarding agency or pass-through entity believes such review is needed to ensure that the item or service specified is the one being proposed for acquisition. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the non-Federal entity desires to have the review accomplished after a solicitation has been developed, the Federal awarding agency or pass-through entity may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(b) The non-Federal entity must make available upon request, for the Federal awarding agency or pass-through entity pre-procurement review, procurement documents, such as requests for proposals or invitations for bids, or independent cost estimates, when:

- (1) The non-Federal entity's procurement procedures or operation fails to comply with the procurement standards in this part;
- (2) The procurement is expected to exceed the Simplified Acquisition Threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation;
- (3) The procurement, which is expected to exceed the Simplified Acquisition Threshold, specifies a "brand name" product;
- (4) The proposed contract is more than the Simplified Acquisition Threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or
- (5) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the Simplified Acquisition Threshold.

(c) The non-Federal entity is exempt from the pre-procurement review in [paragraph \(b\)](#) of this section if the Federal awarding agency or pass-through entity determines that its procurement systems comply with the standards of this part.

(1) The non-Federal entity may request that its procurement system be reviewed by the Federal awarding agency or pass-through entity to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews must occur where there is continuous high-dollar funding, and third-party contracts are awarded on a regular basis;

(2) The non-Federal entity may self-certify its procurement system. Such self-certification must not limit the Federal awarding agency's right to survey the system. Under a self-certification procedure, the Federal awarding agency may rely on written assurances from the non-Federal entity that it is complying with these standards. The non-Federal entity must cite specific policies, procedures, regulations, or standards as being in compliance with these requirements and have its system available for review.

#### **§ 200.326 Bonding requirements.**

For construction or facility improvement contracts or subcontracts exceeding the Simplified Acquisition Threshold, the Federal awarding agency or pass-through entity may accept the bonding policy and requirements of the non-Federal entity provided that the Federal awarding agency or pass-through entity has made a determination that the Federal interest is adequately protected. If such a determination has not been made, the minimum requirements must be as follows:

- (a) A bid guarantee from each bidder equivalent to five percent of the bid price. The "bid guarantee" must consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.
- (b) A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's requirements under such contract.
- (c) A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

#### **§ 200.327 Contract provisions.**

The non-Federal entity's contracts must contain the applicable provisions described in appendix II to this part.

**PART 200 - UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS** <https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200>

**Code of Federal Regulations**

**Subpart D – Post Federal Award Requirements**

<https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200/subpart-D>

Subpart D [Post Federal Award Requirements](#) 200.300 – 200.346

- § 200.300 [Statutory and national policy requirements.](#)
- § 200.301 [Performance measurement.](#)
- § 200.302 [Financial management.](#)
- § 200.303 [Internal controls.](#)
- § 200.304 [Bonds.](#)
- § 200.305 [Federal payment.](#)
- § 200.306 [Cost sharing or matching.](#)
- § 200.307 [Program income.](#)
- § 200.308 [Revision of budget and program plans.](#)
- § 200.309 [Modifications to Period of Performance.](#)

[Property Standards](#) [200.310 – 200.316](#)

- § 200.310 [Insurance coverage.](#)
- § 200.311 [Real property.](#)
- § 200.312 [Federally-owned and exempt property.](#)
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[Procurement Standards](#) [200.317 – 200.327](#)

- § 200.317 [Procurements by states.](#)
- § 200.318 [General procurement standards.](#)
- § 200.319 [Competition.](#)
- § 200.320 [Methods of procurement to be followed.](#)
- § 200.321 [Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms.](#)
- § 200.322 [Domestic preferences for procurements.](#)
- § 200.323 [Procurement of recovered materials.](#)
- § 200.324 [Contract cost and price.](#)
- § 200.325 [Federal awarding agency or pass-through entity review.](#)
- § 200.326 [Bonding requirements.](#)
- § 200.327 [Contract provisions.](#)

[Performance and Financial Monitoring and Reporting](#) [200.328 – 200.330](#)

- § 200.328 [Financial reporting.](#)
- § 200.329 [Monitoring and reporting program performance.](#)
- § 200.330 [Reporting on real property.](#)

[Subrecipient Monitoring and Management](#) [200.331 – 200.333](#)

- § 200.331 [Subrecipient and contractor determinations.](#)
- § 200.332 [Requirements for pass-through entities.](#)
- § 200.333 [Fixed amount subawards.](#)

[Record Retention and Access](#) [200.334 – 200.338](#)

§ 200.334	<a href="#">Retention requirements for records.</a>	
§ 200.335	<a href="#">Requests for transfer of records.</a>	
§ 200.336	<a href="#">Methods for collection, transmission, and storage of information.</a>	
§ 200.337	<a href="#">Access to records.</a>	
§ 200.338	<a href="#">Restrictions on public access to records.</a>	
<a href="#">Remedies for Noncompliance</a>		<a href="#">200.339 – 200.343</a>
§ 200.339	<a href="#">Remedies for noncompliance.</a>	
§ 200.340	<a href="#">Termination.</a>	
§ 200.341	<a href="#">Notification of termination requirement.</a>	
§ 200.342	<a href="#">Opportunities to object, hearings, and appeals.</a>	
§ 200.343	<a href="#">Effects of suspension and termination.</a>	
<a href="#">Closeout</a>		<a href="#">200.344</a>
§ 200.344	<a href="#">Closeout.</a>	
<a href="#">Post-Closeout Adjustments and Continuing Responsibilities</a>		<a href="#">200.345</a>
§ 200.345	<a href="#">Post-closeout adjustments and continuing responsibilities.</a>	
<a href="#">Collection of Amounts Due</a>		<a href="#">200.346</a>
§ 200.346	<a href="#">Collection of amounts due.</a>	

## XII PROCUREMENTS SUBJECT TO FEDERAL FUNDING

**12.01 Additional Standards.** In addition to the procedures specified elsewhere in this Purchasing Manual, which are incorporated herein by reference, the County shall abide by the following purchasing procedures applicable to procurements that are subject to federal funding as referenced in 2 CFR 200: Uniform Administrative Requirements, Costs Principles and Audit Requirements for Federal Awards (Uniform Guidance), which is hereby incorporated by reference. These procedures are in addition to all other relevant procedures in this Purchasing Manual, except that in the event of a conflict these procedures will control if a purchase is made using federal funds.

**12.02 Background.** The United States Office of Management and Budget (OMB) Issued the Uniform Guidance, which reforms rules applicable to entities receiving federal grant funding by streamlining and superseding eight OMB circulars (A-21, A-87, A-122, A-110, A-102, A-133, A-50 and A-89). The new procurement standards are found in Subpart D: Post Federal Award Requirements: 2 CFR §200.317 through §200.327

**12.03 Compliance Requirements -Procurement.** The following is an overview of the procurement standards and procedures applicable when procuring property and services under a Federal award in accordance with 1 CFR §200.317 through §200.327, which are hereby incorporated by reference.

**12.03.1** The County, as a non-Federal entity other than a State, will follow §§ 200.318 General procurement standards through 200.327 Contract provisions. [See §200.317].

**12.03.2 Procurement Procedures:** The County will use its own documented procurement procedures which reflect applicable State and local laws and regulations, provided that the procurement conform to applicable Federal statutes and the procurement requirements identified in 2 CFR part 200. [See §200.318(a)] When preparing a federally funded contract, the County Purchasing Dept, Planning Dept., and County Attorney will review the required federal clauses in Appendix II and make sure that all clauses required for the contract is included.

**12.03.3 Conflicts of Interest/Standards of Conduct:** The County will maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, awarded and administration of contracts. In addition to the following the County incorporates standards referenced above and Standards of Conduct in applicable County Personnel Manuals. [See §200.318(c)].

a No employee, officer, or agent may participate in the selection, award, or administration of contracts supported by Federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract. Addressed in County's Bids, RFP's, RFQ's (Attachment B -No\*Collusion Affidavit), (Attachment G -Conflict of Interest Questionnaire) Purchasing Manual (Ethics Policy) [See §200.318(c)(J)].

b. Officers, employees, and agents of the County may neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. However, the County may set standards for situations in which the financial interest is not substantial or the gift is an unsolicited item of nominal value. If this is done these standards will be promulgated like other County policies and procedures. Addressed in County's Bids, RFP's, RFQ's (Attachment B -Non-Collusion Affidavit), (Attachment G –Conflict of Interest Questionnaire, Attachment H- Disclosure of Interest Questionnaire) Purchasing Manual (Ethics Policy) {See §200.318(c)(I)}.

c. If the County has an affiliate or subsidiary organization that is not a government entity, the County will also maintain written standards of conduct concerning organizational conflicts of interest arising from its relationship with the affiliate or subsidiary.

d The County will disclose any potential conflicts of interest in writing to the Federal awarding agency or pass-through entity in accordance with applicable Federal awarding agency policy. [See 2 CFR §200.112]. Additionally, the County will disclose in a timely manner, in writing to the Federal awarding agency or pass-through entity all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Further, if applicable, the County will make post-award reports as provided by Appendix XII to Part 200.

e. Violations of this policy may result in disciplinary action consistent with County disciplinary policy, including but not limited to dismissal. Further, violations may be referred to the appropriate law enforcement agency for investigation and possible prosecution.

**12.03.4 Oversight:** Once the Contract is awarded, oversight must be maintained to ensure that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders. County Contract monitor will be utilized to track and perform quantity and quality control responsibilities in monitoring role towards compliance verification. [See §200.3J8(b)].

**12.03.5** All proposed procurement actions shall be reviewed to avoid the purchase of unnecessary or duplicative items as stated in Independent Procedure IP "Prevention of Unnecessary and Duplicative Purchases".

Where applicable, consideration will be given to consolidating or breaking out procurements to obtain a more economical purchase. Review of all potentially related consolidation in sourcing of items towards economy of scale.

Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach County will consider leasing of items whenever determined to be more cost effective versus purchase of items which are not necessarily required beyond the immediate or project related intended use. [See §200.318MJ

**12.03.06** The County may enter into state and local intergovernmental agreement. or inter-entity agreements where appropriate for procurement or use of common or shared goods and services. County will explore interlocal agreement option with other entities towards sharing of goods and services in an effort to reduce overall cost. The County also approved Resolution 20/9R2007 on Feb 1 coy 5, 2019. [See §200.318(e)]

**12.03.07** Federal excess and surplus property may be used in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs. State and Federal Surplus sites will be reviewed for potential adaptations to meet project needs. [See §200.318(/)]

**12.03.08** Deliberately omitted.

**12.03.09** Contracts should be awarded only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources, as well as whether the contractor is suspended or debarred receiving federal funds. (See Bids, RFP's, RFQ's Attachment F- Certificate Regarding Debarment, Suspension Ineligibility, Attachment F-2-Swom Statement of Debarment, Attachment F-3 -Architects, Engineers, Construction Performance, Attachment I-House Bill 89 Verification, Texas Ethics Commission Form 1295)[See §200.318(h)].

**12.03.10** The County will maintain records sufficient to detail the history of procurement. The County's Records Retention Policy as adopted by Commissioners Court and presented by the County Clerks Dept. (Official Records Manager for the County) - Purchasing Bids, RFP's, RFQ's, and contracts is five (5) years (in accordance with §200.318(i)).

**12.03.11** The County may not enter a contract with time and materials based pricing unless there is a not-to-exceed clause and the Purchaser determines that other fee structures are not suitable.

**12.03.12** The County alone shall be responsible for all contractual and administrative issues arising out of procurements in accordance with good administrative practice and sound business judgment. County Civil legal Division will coordinate these matters as they arise. County protest procedures apply to Bid, RFP's, RFQ's and written quotations. Once a contract has been executed, any disputes are dealt with at the time they arise. County Civil legal Department addresses contract disputes on behalf of the County.

**12.3.13** Discounts, transportation costs, or life cycle costs will only be considered when they are specified in the bidding documents. These will only be considered when specified in the bidding documents. These are not considered if not specified in the Bid /RFP documents.

**12.04 Competition.** All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of 2 CFR §200.319. Note 12.06 below identifies sources towards maximizing competitive solicitations. Purchasers will review all Bid specifications and requirements towards eliminating unduly restrictive requirements.

**12.04.01.01** In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals will be excluded from competing for such procurements.

**12.04.01.02** The County will avoid the following actions in procurement of goods and services:

- (1) Placing unreasonable requirements on firms in order for them to qualify to do business;
- (2) Requiring unnecessary experience and excessive bonding;
- (3) Noncompetitive pricing practices between firms or between affiliated companies;
- (4) Noncompetitive contracts to consultants that are on retainer contracts;

- (5) Organizational conflicts of interest;
- (6) Except where required and justified as a sole source purchase, Specifying only a "brand name" product instead of allowing "an equal" product to be offered and describing the performance or other relevant requirements of the procurement; and
- (7) Any arbitrary action in the procurement process . §200.319(a)

**12.04.02 Geographical Limitation:** Unless specifically excepted as provided in 2 CFR §200.319(b), the County will not impose state or local geographical preferences in the evaluation of bids or proposals for federally funded contracts.

12.04.03.01 Contract solicitations: Purchaser shall incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Detailed specifications and materials product description must be clearly identified.

12.04.03.02 Contract solicitations shall specify all requirements which the potential vendors must fulfill to submit bids or proposals, and identify all other factors to be used in evaluating bids or proposals. Scoring criteria shall be utilized in evaluation and analysis of Proposals.

12.04.04 All prequalified lists of persons, firms, or products which are used in acquiring goods and services shall be kept current and include enough qualified sources to ensure minimum open and free competition, and potential bidders will not be precluded from qualifying during the solicitation period [See §200.319(d)]. County Purchasing Department are // and updated Bidders /list See 12.06 below.

**12.05 Methods of Procurement with Federal Funds.** The County will use one of the following five procurement methods as discussed in 2 CFR §200.320 when making purchases with federal funds. Should State or local procurement requirements applicable to a purchase being made with federal funds be more restrictive than Federal requirements, the more restrictive requirements or methods will be followed. The type of procurement process to use will depend on the cost and type of services or item(s) being purchased.

Micro-purchase = County under \$3,000. - No quotations or competitive process required – Vendors for purchases under \$3,000 shall be rotated – requisition and Purchase Order required. (Travel regulations and Gas purchases included..)

Small purchase procedures - informal Bids = County \$3,000 to \$14,999 and Commissioners Court approval \$15,000 to \$24,999 - Three written quotations required, requisition, Purchase Order.

Sealed Formal Bids = \$25,000 and more unless exception applies

Competitive proposals = County proposal process for Professional Services, IT & High Tech and Commissioners Court approved instances of projects not suitable for detailed specifications.

Request for Qualifications = Qualifications based on price proposals (Engineering & Architecture, Land Surveying, Professional services. Cameron County follows the Professional Services Procurement Act Govt. Code ch 2254 Subch A

Non-competitive proposals Sole Source - under \$15,000 Sole Source letter Department Head, Vendor, Purchasing Agent. Commissioners Court approval required \$15,000 to include Sole Source letter Department Head, Vendor, Purchasing Agent.

Emergency Purchases over \$15,000 requires Commissioners Court approval/ratification whenever time is crucial in preventing an escalating health and safety concern or preventing a crucial incident as per Texas State Statute 262.024

Special & Discretionary Purchases as per Texas State Statute 262.024. For procurement of Federally funded land surveying Cameron County will contact the federal awarding agency or pass-through entity (TCEQ), for RESTORE projects to request authorization for noncompetitive procurement under 2 CFR 200.320(c)(4).

Personal service - as per

Under the Micro-Purchase dollar threshold rotation of available vendors will be utilized

Over the Micro-Purchase dollar threshold will comply with State of Texas, Local Government Code Ch 262.024 (a) (4).

**12.06 Contracting with Small and Minority Businesses, Women's Business Enterprises, and Labor Surplus Area Firms.** The County takes all necessary affirmative steps (and will include in all related contracts language towards Contractor Certification of Small, Minority, or Women Business ownership - when possible) as described in §200.321 to assure minority businesses, Women's Business Enterprises, and labor surplus are used when possible. The County utilizes the following sites towards outreach for County Bidding opportunities for Small, Minority, Women Businesses: U.S. Small Business Administration, ESBD State of Texas Bid Posting Site, Associated General Contractors, Dodge Reports, Reed Construction Data, Texas Smart Buy Electronic State Business Daily Search (ESBD). Bk/Net, [MWBE@texas.agriculture.gov](mailto:MWBE@texas.agriculture.gov), Coop Vendors list, County Current Bidders list. (County will require Prime Contractors to follow all of the affirmative steps when Prime Contractor will be letting subcontracts. The requirements for Prime Contractors as laid out by the County will be targeted towards creating maximum participation for small, minority, and women's business enterprises as follows: will be on the solicitation list and will be notified when they are potential sources, will divide total requirements when economically feasible into smaller tasks or quantities, establish delivery schedules as requirements permit, contact the agencies as listed above as an outreach network towards attracting these types of businesses. This information will also be included in all contracts.) County utilization of/Section 3/ HUD (see Purchasing Website) addresses Davis-Bacon, Equal Employment, Vicinity Hiring Preference, Economic Opportunities, HUB, SBA, Local Vendor, and MWBE requirements.

**12.07 Procurement of Recovered Materials.** The County and (where applicable) its contractors will comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. {See §200.322}.

County will (as per EPA 40CFR part 247) procure only items containing highest percentage of recovered materials practicable and allow for satisfactory competition based on the \$10,000 year threshold. County will establish affirmative procurement program for recovered materials.

**12.08 Contract Cost and Price.** The County will abide by the provisions of §200.324 (as required under County Resolution #20/90R2009), including, but not limited to performing a cost or price analysis and negotiating profit as discussed therein

*12.8.1* **Negotiation Based on Cost Estimates; Negotiation of Profit.** In negotiating a contract price based on a cost analysis, the County will require that all estimated costs used to develop the negotiated price must be allowable costs under 2 CFR Part 200. Subpart E. A comparison between estimated costs and current customary market pricing will be analyzed in an effort to establish allowable cost and ultimately establish negotiated pricing. The County will also require that the profit element be negotiated separately, whether it is included as a separate price element or whether it is rolled into a lump sum price (or similar fixed price). Profit margin will also be compared relative to comparable current market rates to assess potential variances. This cost analysis will be achieved through verification of previous similar purchases, comparison with other public entities, recommendations from professional consultants or project Engineer, or data research (ie: Smart Procure) similar to the specific type of procurement. In addition and in order to establish a fair and reasonable profit, the County will also consider the contractor's risk and investment, complexity of work to be performed at a level of subcontracting, quality and track record of previous performance, and industry profit rates in the approximate SMSA /geographic area/or similar work. At the outset independent estimates will be obtained by the County before receiving Bids or Proposal this also applies to all sole source purchases. All estimates must be allowable subject to analysis as per conditions noted above.

*12.8.2* **Cost Plus Percentage of Cost Prohibited.** The County will not enter into a cost plus percentage of cost contract, or a cost plus percentage of construction cost contract. (as per 200.324 d) Engineer and County will examine all Change order pricing as submitted. Profit margin will not be determined based on a percentage of cost and percentage of construction cost methods of contracting must not be used. Costs based on estimated costs of contracts under Federal award are allowable only to the extent that costs incurred or cost estimates included in negotiated prices would be allowable for the non-Federal entity under Subpart E Cost Principles of this part. County will reimburse Contractor's Direct and indirect Costs plus a Fixed fee for the project.

**12.9 Contract Provisions.** Pursuant to §200.327 the County will include in all federally-funded contracts, the applicable provisions described in Appendix 11 to 2 CFR Part 200 - Contract Provisions for non-Federal Entity Contracts under Federal Awards. When preparing a federally funded contract the County Purchasing Dept., Planning Dept., and County Attorney will review the required federal clauses in Appendix 11 and make sure that all clauses required/or the contract is included.

**12.10 Personnel Cost Calculation** Pursuant to 2 Code of Federal Regulations (CFR) Part 200, Subpart E the County adopted Resolution # 2019R02008 on February 5, 2019 - Policy and Procedure to Ensure Accurate Completion of Personnel Cost Calculation.

**12.11 Cost Price Analysis** Pursuant to 2 Code of Federal Regulations (CFR) Part 200, the County adopted Resolution # 2019R02009 on February 5, 2019 - Policy and Procedure to Ensure Cost Price Analysis requirement.

**12.12 Debarment Check** Pursuant to 2 Code of Federal Regulations (CFR) Part 200.318, the County adopted Resolution # 2019R02010 on February 5, 2019 - Policy and Procedure to Ensure Debarment Check is adequately performed.

**12.13 Single Proposal requirements** Proposal is reviewed for compliance. Determination is made by County as to benefit of resolution or RFP towards a more competitive solicitation. Pricing is reviewed relative to current market costs for comparison. If all is determined to be cost effective and advantageous to County, recommendation is made by Evaluation Committee to Commissioners Court for award. Commissioners Court must make a determination that price is fair and reasonable prior to awarding RFP. Prior to Court award of sole Bid, RFP, or RFQ County Purchasing Dept. will contact the federal awarding agency or pass-through entity (TCEQ for RESTORE projects) to request authorization for noncompetitive procurement under 2 CFR 200.320(c)(2) to proceed towards Commissioners Court approval. Informal Bids not exceeding \$14,999 will require at least 3 informal Bids for comparative purposes. If the County is unable to obtain at least 3 competitive Bids or Proposals, it is unable to obtain more than one (1) Bid or Proposal the County Purchasing Dept. will review pricing relative to current market costs for comparison purposes (utilizing comparable bid results, engineer recent historic data, Smart Procure comparable data) will contact the federal awarding agency or pass-through entity (TCEQ, for RESTORE projects) to request authorization for noncompetitive procurement under 2 CFR 200.320(c)(2) prior to proceeding with Agenda towards Commissioners Court approval.

**12.14 Domestic Preferences for Procurement** County will (in awards of iron, aluminum, steel, cement and other goods / manufactured products produced in the United States) utilize and purchase from these suppliers and subawards with a preference towards purchases from these Companies. (see 200.322)

**12.15 Bid Bonds** Will always be required for construction contracts:

County Purchasing Act: Required

Payment Bond - \$25,000 + (2253.21)

Performance Bond - \$100,000 + (2253.21)

Bid Bond - a) If the contract is for the construction of public works or is under a contract exceeding \$100,000, the bid specifications or request for proposals may require the bidder to furnish a good and sufficient bid bond in **the amount of five percent of the total contract (262.032)**

Federal funded projects: exceeding \$150,000 (on exception sought from the federal awarding agency. For all Federal funded projects \$150,000 and over Bid Bonds will be mandatory equivalent to five percent of the bid price. A performance bond and payment bond will also be required - both at 100 percent of contract price.

**12.16 Telecommunications and Surveillance Services or Equipment** Proposal is reviewed for compliance with 2 CFR Appendix II (K) 200-216 prior to proceeding with Agenda towards Commissioners Court approval. Determination is made by County as to ensure that neither loan or grant funds will be utilized for the purchase or obtaining Telecommunications and Surveillance Services or Equipment from one of the following Vendors or any of their subsidiaries or affiliates :

Huawei Technologies Co.

ZTE Corp.

Hytera Communications Corp.

Hangzhou Hikvision Digital Technology Co.

Dahua Technology Co.

as well as related services (Telecomm. or Video Surveillance provided by entities or using these Companies equipment. Additional Companies determined as by the Secretary of Defense, FBI, National Intelligence are to also be added to the restricted list of firms.

In addition, the vendors listed above will be identified to verify that these firms will not be utilized for contract extension/ renewal, essential components, critical technology, or components of a system.

Proposals will be reviewed for compliance with 2 CFR 200-471 prior to proceeding with Agenda towards Commissioners Court approval prior to obligating or expending funds. County will review all proposals related to Telecommunication and/or video surveillance equipment or service related costs in order to verify that costs associated with procuring, obtaining, extending, entering into, or renewing a contract for equipment, services, or systems are not utilized.

## BABA Checklist, Instructions, Definitions, & FAQs

### ***BABA Activities Checklist***

ACTIVITY	Consultant	Engineer/ Architect	Contractor
<b>A. Pre-Award</b>			
While preparing the bid packet, identify bid items that will, or are likely to include BABA Applicable Materials.			
Include BABA Requirements when advertising for bids to ensure responsible bid responses.			
<b>B. Post-Award</b>			
At the Pre-Construction meeting, finalize list of <i>all materials</i> to be used for the project based on the bid awarded and provide to the Grant Administrator.			
Enter list of <i>all permanently installed materials</i> to be used for the project into the BABA Reporting page under the Group B Performance Report in TDA-GO.			
As materials are ordered, request a Manufacturer's Certification for all BABA-applicable materials for which a waiver is not being claimed and upload them to the correct material row on the BABA Reporting page.			
Review and update the BABA Reporting page throughout the life of the grant with each submitted Change Order or Construction MSR.			
<b>C. Payment Requests</b>			
Review BABA Reporting page prior to submitting each payment request and ensure the necessary Manufacturer's Certifications are uploaded. TDA will not release funds for materials that require BABA Certification unless the Certification is uploaded to the BABA Reporting page.			
<b>D. Satisfy BABA Special Condition</b>			
On the BABA Reporting Page, select "Print Document" in the left navigation menu. Have the AO initial and upload to the PCR (and Grant Overview page if applicable).			

### ***BABA Instructions***

#### **Documenting Materials for BABA Compliance:**

- The purpose of the BABA Reporting page in TDA-GO is to document **ALL permanently installed materials** being used in a project to ensure BABA compliance. **ALL permanently installed materials**, even materials that are not BABA Applicable, must be listed on this page so TDA can ensure all compliance requirements are met and provide appropriate technical assistance to help prevent potential findings.
- The BABA Reporting page requires each material to be listed along with each corresponding bid item #. However, this is a list of **materials**, not a list of bid items (and not all bid items may be represented).
  - Some materials (such as fasteners) may be used across multiple bid items. For ease of reporting, these materials may be listed together in one row with each associated Bid Item # noted rather than listing them separately by Related Bid Item #.
  - Some bid items (such as Curb & Gutter) may use multiple different materials (Cement Aggregate & Rebar). Each material should be listed separately (to the extent feasible).

- When submitting Group B Performance Report, the Material Cost may not yet be known. At this point, TDA will primarily be reviewing the BABA Reporting page for the Material Description, Related Bid Item #(s), and Waiver Status. If the material listed is not BABA Applicable or if a waiver will be claimed, please indicate that using the dropdown menu under Waiver Status.
- Any change to the materials being used (such as on a Change Order [CO] to add new bid items or change the quantity of existing materials, or when awarding a second Construction Contract), please answer “Yes” to the BABA question on the CO page and update the BABA Reporting page.
- TDA has provided a list of materials that may be used as guide and safe harbor for identifying materials subject to BABA. This list is published by the Texas Water Development Board and can be found [HERE](#).

### Payment Request Procedures:

- Each time a Payment Request is submitted for Construction funds, the BABA Reporting page must be reviewed for accuracy and updated as necessary.
- Before Construction funds are requested for a specific bid item, the Manufacturer’s Certification for each associated material must be uploaded to the BABA Reporting page in the field for those materials. TDA will review the Certifications and, if acceptable, check the “Reviewed by TDA” box. For materials that are Not BABA Applicable or if a waiver is applied, leave that row’s upload field blank. As a note: TDA **will not** release funds for a bid item until each of the associated materials have any necessary Certifications uploaded to the BABA Reporting page.

### Satisfying BABA Special Condition:

- After the final payment request for 100% of construction funds is submitted, navigate to the BABA Reporting page in TDA-GO. In the left navigation menu, scroll to the Tools section and select “Print Document”. Select “Include with Attachments” for the BABA Reporting page only. Have the Authorized Official initial the document and upload it to the Project Completion Report (PCR) in the appropriate field. If a grant includes the BABA Special Condition on the Grant Overview page, upload the same document to that field and notify the assigned TDA Grant Specialist via email.

### Waiver Status Option Meanings:

OPTION	Meaning
<b>Certification Required</b>	This material is BABA Applicable and a Manufacturer’s Certification or other acceptable BABA documentation will be provided.
<b>De Minimis Waiver Claimed</b>	This material is BABA Applicable, but the cost is less than 5% of the cumulative cost of all BABA Applicable materials. No BABA documentation will be provided. *
<b>Phased Implementation Waiver Claimed</b>	This material is BABA Applicable, but BABA documentation is not required to be provided under the current Implementation Phase. No BABA documentation will be provided.
<b>Not BABA Applicable</b>	This material is Not BABA Applicable and not subject to any BABA documentation requirements. No BABA documentation will be provided.
<b>Other Waiver Submitted for Review</b>	This material is BABA Applicable, but the Grant Recipient will be submitting a waiver request to exempt it from BABA reporting requirements.

*\*HUD has waived the application of the Buy America Preference for a De Minimis portion of an infrastructure project, (a cumulative total of no more than 5% of the total cost of the iron, steel, manufactured products, and construction materials used in and incorporated into the project, up to a maximum of \$1 million). Grant Recipients are not required to submit BABA documentation for materials claimed as part of the De Minimis. Use the BABA Compliance Metrics section of the BABA Reporting page to determine if a material may be included in the De Minimis. The total % of all materials claimed as part of the De Minimis must be less than or equal to 5%. Only BABA Applicable materials are used to calculate the De Minimis.*

## ***BABA Definitions***

### **Materials vs Components:**

- **Materials:** The term “Materials” is used by TDA to describe all articles, materials, and supplies that are used within a TxCDBG funded infrastructure project.
- **Components:** The term “Component” is defined in the Code of Federal Regulations as an “article, material, or supply, whether manufactured or unmanufactured, incorporated directly” into a “construction material”.

### **Iron and Steel Products:**

- The term “iron and steel products” is defined in 2 CFR 184.3 as materials that consists wholly or predominantly of iron or steel, or a combination of both.
  - **Predominantly iron or steel or a combination of both** means that the cost of the iron and steel content is more than 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the mill products, castings, or forgings utilized in the manufacture of the product. *This information should be provided by the manufacturer.*

### **Section 70917(c) Materials:**

- The term “section 70917(c) materials” is defined in 2 CFR 184.3 as cement and cementitious materials; aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

### **Construction Materials:**

- The term “construction materials” is defined in 2 CFR § 184.3 as materials that consist of only one of the items listed below. Construction Materials are broken into two separate categories based on the Phased Implementation Waiver.
  - **Specifically Listed Construction Materials** include:
    - Non-ferrous metals;
    - Lumber;
    - Composite building materials; and
    - Plastic and polymer-based pipe and tube.
  - **Not Listed Construction Materials** include:
    - Plastic and polymer-based products other than composite building materials or plastic and polymer-based pipe or tube;
    - glass (including optic glass); and
    - drywall.
  - **As a note:** minor additions of articles, materials, supplies or binding agents to a construction material do not change the categorization of the construction material.

### **Manufactured Products:**

- The term “manufactured products” is defined in 2 CFR 184.3 as materials that have been:
  - Processed into a specific form and shape; or
  - Combined with other materials to create a product with different properties than the individual materials.
- **As a note:** If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material, then it is not a manufactured product. However, a material classified as a manufactured product may include components that are construction materials, iron or steel products, or section 70917(c) materials.

## **BABA FAQs**

### **How should materials be classified for BABA reporting purposes?**

- Materials should only be classified into one of the following categories to determine when BABA requirements apply:
  - BABA Applicable Materials:
    - Iron or steel products;
    - Construction materials; or
    - Manufactured products.
  - BABA-Exempt Materials:
    - Section 70917(c) materials.
- Each material should be classified in *only one* of the categories listed above. In rare cases, a material may not fall under any of the categories listed here (contact TDA's BABA Subject Matter Expert for guidance). Use the [TxCDBG BABA Material Classification Tool](#) to assist with classifying materials.
  - **The classification of a material must be made based on its status at the time it is brought to the work site.** Section 70917(c) materials that are used at the work site, such as wet concrete or hot asphalt, are not subject to BABA requirements. However, Section 70917(c) materials may be components of manufactured products if, for example, they are used to produce precast concrete products before being transported to the work site. In this case, the concrete is a *component* of a manufactured product and BABA requirements apply.

### **What documents will TDA accept as proof of BABA compliance?**

- A copy of the product description or technical specifications provided by the manufacturer that:
  - Identifies the item purchased, and
  - Provides sufficient detail to conclude that the materials comply with BABA.
- A certificate, letter, or other documentation provided by the manufacturer that:
  - Identifies the item purchased;
  - Provides sufficient detail to conclude that the materials comply with BABA; and
  - Signed by an authorized company representative OR issued by a verified regulatory compliance office within the company.
- A signed certification from the contractor of a project certifying compliance with BABA.
- **TDA's BABA Contractor Certification (Form A402) and BABA Manufacturer Certification (Form A403) meet these requirements.**
- **TDA reserves the right to request additional documentation at any time.**

### **Are there any waivers available?**

- There are two waivers currently in effect for HUD programs which are applicable to TxCDBG projects and one waiver which may be requested. These waivers include:
  - **Phased Implementation Waiver**
    - HUD has established a Phased Implementation Waiver which automatically applies to all CDBG Formula Grants. This waiver allows TxCDBG Grant Recipients to delay BABA reporting on categories of materials based on the schedule below:
      - **Iron and Steel Products** – BABA reporting required for all grants.
      - **Specifically Listed Construction Materials** – BABA reporting required for all grants awarded after 9/1/2024.
      - **Not Listed Construction Materials** – BABA reporting required for all grants awarded after 9/1/2025.
      - **Manufactured Products** – BABA reporting required for all grants awarded after 9/1/2025.

- The [TxCDBG BABA Material Classification Tool](#) includes these reporting dates.
  - **De Minimis Waiver**
    - HUD has established a De Minimis Waiver which automatically applies to all HUD-administered infrastructure projects. TxCDBG Grant Recipients may apply this waiver to a maximum cumulative total of 5% of the total cost of BABA Applicable materials used in the project. Only BABA Applicable materials are used to calculate the De Minimis.
      - The total cost of BABA Applicable materials can be determined by adding the following together:
        - Total cost of all Iron and Steel Products
        - Total cost of all Construction Materials
          - Both Specifically Listed and Not Listed
        - Total cost of all Manufactured Products
      - Once the above amounts are combined, multiply by 0.05 to determine the maximum De Minimis amount that may be claimed. The total % of all materials claimed as part of the De Minimis must be less than or equal to 5%.
    - The BABA Compliance Metrics section on the BABA Reporting Page in TDA-GO completes all these calculations for you.
    - TxCDBG Grant Recipients are not required to submit BABA documentation for materials claimed as part of the De Minimis.
  - **Project-/Product-Specific Waiver**
    - If a Grant Recipient has applied both above waivers to their project and still wishes to not provide BABA reporting for additional materials, one of the three Project-/Product-Specific Waivers may be requested by following the process outlined in the *“How to Request a Project-/Product-Specific Waiver”* section below.
      - Types of Project-/Product-Specific Waivers:
        - **Nonavailability Waiver:**
          - May be requested if the types of iron, steel, manufactured products, or construction materials required for the project are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality.
        - **Unreasonable Cost Waiver:**
          - May be requested when the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.
        - **Public Interest Waiver:**
          - May be requested if the use of American made products would be inconsistent with the public interest. Grantees should explain how waiving the BABA requirement for the project or product will serve the public interest and demonstrate definite impacts on the community if specific materials are not utilized in an infrastructure project to support this waiver type.
      - **As a Note:**
        - As of January 2025, TDA has not seen any waiver applications approved for projects similar to TxCDBG funded projects. Submitting a waiver application does not guarantee approval.
        - Any project delays due to the waiver process will not be considered for proposed Grant Agreement extensions.
        - **Per HUD and OMB, project-/product-specific waivers will not be approved retroactively for materials that have already been purchased or incorporated into a project.**

## ***How to Request a Project-/Product-Specific Waiver***

### **Process:**

- Fill out Form A400 to calculate the De Minimis limit and ensure that flexibility is fully applied to the materials used in the project that cannot be procured from domestic manufacturers.
- Determine the type of waiver to be requested.
- Complete the necessary market research to support the need for a waiver. (See next section.)
- Collect the required information to submit the waiver request to TDA. (See next section.)
- Submit to your TDA Grant Specialist a notarized letter addressed to the TxCDBG Director which includes all the required information as specified in the next section.
- TDA will review the information provided, contact the Grant Recipient if additional information is needed, and submit to HUD if deemed appropriate.
- HUD will review the waiver application and contact TDA if additional information is needed to validate the need for a waiver.
- If an application is approved by HUD, the proposed waiver will be posted in the Federal Register for a minimum 15-day public comment period and then submit the request to the Made In America Office (MIAO) at the Office of Management and Budget (OMB).
- The MIAO will review the proposed waiver and public comments for final approval and communicate a final decision to HUD which will communicate it to TDA who will then notify the Grant Recipient.

### **Required Information to Submit a Waiver:**

- Per HUD's requirements, the following information is required to submit a waiver application. Please ensure all this information is included in your letter to the TxCDBG Director. If you have not included all the required information, TDA will reject your request.
  - Market research supporting the need for a waiver;
    - Market research may be completed by the contractor who is purchasing the materials to be incorporated into the project.
    - Sufficient market research should include one or more of the following:
      - Document the report showing results of supplier scouting services provided by the [NIST MEP](#), or similar supplier scouting service.
      - Document that the purchaser has made a good faith effort to contact a minimum of three (3) manufacturers or suppliers to determine if a BABA-compliant material is available in sufficient quantity and satisfactory quality.  
This documentation should include the following:
        - PDF files or screenshots of Internet searches; and
        - Email communications; and
        - Documentation of phone conversations that notes the date and time of the call, the phone number, the contact person with whom the purchaser spoke, and a summary of the information received.
  - Detailed description of the project and location;
  - List of all Federal Agencies funding the project;
    - If any Federal Agencies besides HUD are co-funding the project, please include the Federal Agency's name, Office, Program, and Contact Information.
  - Total sources and amounts of funding, including federal and non-federal shares;
  - Total estimated project costs, including federal and non-federal shares;
  - A listing of the material, technical specification, and quantity;

- HUD requires the name of the iron or steel item, manufactured product, or construction material proposed to be excepted from BABA requirements, including name, cost, countries of origin, relevant [Product Service Code \(PSC\)](#), and [North American Industry Classification System \(NAICS\) code](#).
    - **As a note:** if you have multiple products you would like HUD to review, a waiver application must be submitted for each product.
  - Waiver type requested;
    - **Nonavailability Waiver:**
      - If applying for a Nonavailability Waiver, responses to the following are required:
        - A description of the due diligence performed by the applicant, including names and contact information of the manufacturers, distributors, or suppliers contacted for quotes (minimum 3), and the responses provided.
        - In the instance that the lead time to obtain a BABA compliant item is excessive, please attach documentation which indicates:
          - The sum of the project cost and product that was identified;
          - The cost differential between the BABA compliant product and the Non-BABA compliant product that increases the overall project cost to be above the threshold of 25%; and
          - Any quality or quantity issues that were interfaced in the BABA compliant process.
    - **Unreasonable Cost Waiver:**
      - If applying for an Unreasonable Cost Waiver, responses to the following are required:
        - What is the additional cost of the BABA compliant item, compared to using iron and steel, manufactured products, and construction materials of non-domestic or unknown origin?
        - Please demonstrate how the BABA compliant item increases the total project cost by more than 25 percent.
        - Attach documentation of prices for BABA compliant and non-compliant items for the cost comparison.
    - **Public Interest Waiver:**
      - If applying for a Public Interest Waiver, responses to the following are required:
        - Explain how waiving the BABA requirement for this project or product serves the public interest.
  - Provide any additional information for HUD's consideration of the requested waiver;
  - Identify any anticipated impacts if no waiver is issued;
  - Include the following language at the end of the waiver application letter to certify that the Grant Recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with the prime contractor;
    - **“I/We, the undersigned, certify under penalty of perjury that the information provided above is true and correct.**  
*WARNING: Anyone who knowingly submits a false claim or makes a false statement is subject to criminal and/or civil penalties, including confinement for up to 5 years, fines, and civil and administrative penalties. (18 U.S.C. §§ 287, 1001, 1010, 1012, 1014; 31 U.S.C. §3729, 3802).”*
  - Signed by the Authorized Official; and
  - Notarized by a notary public.



Texas Department of Agriculture  
 Texas Community Development Block Grant Program  
 PO Box 12847  
 Austin, TX 78711

# POLICY ISSUANCE

## CDBG 23-01

Effective Date: December 1, 2023

### **SUBJECT: New Federal Requirements – BABA and VAWA**

**BACKGROUND:**

Beginning in Program Year 2023, TxCDBG Grant Recipients must comply with two new federal requirements. For those grants to which these requirements apply, a special condition is included in the grant agreement.

The U.S. Department of Housing and Urban Development (HUD) is developing guidance in order to implement both new requirements. TDA will continue to monitor this guidance and update the TxCDBG Project Implementation Manual (Manual) as needed.

**Buy America Preference**

2023 TxCDBG Grant Recipients must comply with the Buy America, Build America Act (BABA). HUD has provided a phased implementation schedule for various materials to be required to comply with BABA. The current Manual accelerates this schedule to apply BABA requirements consistently for all applications in the 2023-2024 grant cycle. Based on the federal guidance to date, TDA has determined that adhering more closely to the HUD schedule will benefit Grant Recipients. This means that grants awarded in Program Year 2024 will be required to provide documentation of compliance with BABA for a more expansive list of materials.

**ACTION:** The TxCDBG Project Implementation Manual is modified to reflect the most current federal guidance and TxCDBG implementation instructions to Grant Recipients:

- Chapter 4 – Grant Agreement Special Conditions
- Chapter 10 – Civil Rights Requirements
- Form A1025 – VAWA Certification
- Appendix B - Required Contract Provisions
- Appendix F - Sample Construction Bid Packet
- Appendix G - Sample Material Bid

**IMPLEMENTATION:** This policy issuance is effective immediately. The grants to which the new federal requirements apply are currently in the pre-agreement period and may proceed with certain administrative and/or engineering tasks in compliance with all federal, state, and program requirements.

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Suzanne Barnard, State Director  
 Texas Community Development Block Grant Program  
 Texas Department of Agriculture

## Special Condition Language

Grant agreements issued in Program Year 2023 contain the following language:

9. Grant Recipient must comply with the requirements of the Build America, Buy America Act (BABA), 41 USC ch. 8301 note, and all applicable rules and notices, as may be amended, if applicable to Grant Recipient's infrastructure project. Any funds obligated under this Agreement are subject to BABA requirements as described in Chapter 4 of the TxCDBG Project Implementation Manual, unless excepted by a waiver.

10. In addition to the documentation required by Chapter 2 of the Project Implementation Manual, funds awarded under this Agreement will not be disbursed to Grant Recipient until these special conditions are met. Grant Recipient shall submit to the department a certification of compliance with the requirements of the Violence Against Women Act Reauthorization of 2022 and the Right to Report Crime and Emergencies from One's Home, confirming that no ordinances, local regulations, or policies adopted by the local government and currently in effect contain any financial or regulatory penalty imposed on property owners or residents as a result of any use of emergency services as required by TxCDBG Policy Issuance 23-01.

## Chapter 4 – Grant Agreement Special Conditions

Section 4.1.7 Buy America Preference is replaced in its entirety with the following:

### 4.1.7 Buy America Preference

Pursuant to the Buy America, Build America Act (BABA), Grant Recipients that are awarded funding for infrastructure projects beginning in Program Year 2023 must ensure that the required items used in the project are produced in the United States. HUD's phased implementation will apply BABA documentation requirements to additional items each year – new grant awards must comply with the BABA requirements applicable to the period in which they are awarded.

<b>Item Description.</b> <sup>1 2</sup>	<b>BABA Requirements Apply to New Awards Beginning</b>
All iron and steel	9/1/2023
Specifically listed construction materials: a. Metals other than iron or steel (non-ferrous metals), b. Lumber, c. Composite building materials, and d. Plastic and polymer-based pipe and tube materials, including PVC pipe.	9/1/2024
All construction materials and manufactured products.	9/1/2025
Items not applicable for BABA documentation: a. Tools, equipment, and supplies, such as temporary	n/a

<sup>1</sup> White House Memorandum M-22-11

<sup>2</sup> [HUD Public Interest Phased Implementation Waiver](#)

<p>scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project;</p> <p>b. Equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project, but are not an integral part of the structure or permanently affixed to the infrastructure project</p> <p>c. Purchases that are not intended for construction, alteration, maintenance, or repair of infrastructure.</p>	
---	--

The Buy America preference applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. [An item meets BABA requirements if:](#)

- Iron and steel - all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- Construction materials and manufactured products –
  - the item was manufactured in the United States; or
  - the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product; or
  - the components of the manufactured product meets another standard for determining the minimum amount of domestic content of the manufactured product established under applicable law or regulation.

The Grant Recipient must provide an itemization to identify the products, quantities, and costs as support documentation.

- The bid tab [must be sufficiently detailed to itemize each separate product or material and indicate BABA applicability, OR a separate schedule must be attached to identify BABA applicability for all products or materials.](#)
- [If a change to the contract includes new products or materials, and updated itemization must be submitted with the change order.](#)

Documentation of BABA compliance must be provided for a minimum of 95% of all iron, steel, manufactured products, and construction materials used in the project, [according to the phased implementation schedule](#). TDA has not received guidance as to the documentation necessary to support the Buy America status of the project. Until further guidance is provided, the Grant Recipient must provide written evidence from the manufacturer or supplier that:

- Identifies the item purchased;
- Affirms the location of manufacture as within the United States; and
- If signed by an authorized company representative.

In rare instances, a BABA waiver may be available. To request such a waiver, the Grant Recipient must provide a letter to the TxCDBG Director requesting a BABA waiver, citing the relevant exception, and providing a narrative justification and any supporting documentation for how the exception applies to the project. NOTE: TDA does not have the authority to waive BABA requirements; all requests for waivers will be evaluated by TDA and, if applicable, forwarded for review and potential approval by both HUD and the Office of Management and Budget. **Any project delays due to the waiver process will not be considered for proposed Grant Agreement extensions.**

## **4.2.9 Violence Against Women Act Certification**

Pursuant to the *Violence Against Women Act Reauthorization of 2022*, the Grant Recipient must certify that local policies do not interfere with the residents' Right to Report Crime and Emergencies from One's Home. The certification will confirm that no ordinances, local regulations, or policies adopted by the local government and currently in effect contain any financial or regulatory penalty imposed on property owners or residents as a result of any use of emergency services, or that the Grant Recipient is actively addressing such local regulations.

Form A1025 must be submitted with Group A documentation, as described in Chapter 2 Financial Management – no grant funds will be disbursed until this documentation is provided.

## **Chapter 10 – Civil Rights Requirements**

Section 10.1.9 VAWA Certification is revised as follows:

### **10.1.9 VAWA Certification**

The Violence Against Women Act (VAWA) Reauthorization Act of 2022, which became effective October 1, 2022, includes a new requirement for Grant Recipients to support an individual's, including survivor's, right to seek law enforcement or emergency assistance. TxCDBG grants awarded on or after the effective date will be required to:

1. "Report any of their laws or policies, or, as applicable, the laws or policies adopted by subgrantees, that impose penalties on landlords, homeowners, tenants, residents, occupants, guests, or housing applicants based on requests for law enforcement or emergency assistance or based on criminal activity that occurred at a property; and
2. Certify that they are in compliance..." with the VAWA requirements.

[See Chapter 4 Special Conditions for additional details.](#)

~~As of the publication of this Manual, HUD has not provided guidance for this review and certification. Once issued, TDA will provide a Policy Issuance and sample certification.~~

**Violence Against Women Act (VAWA) Certification**

**Grant Recipient:** \_\_\_\_\_

As Civil Rights Officer, I certify that the Grant Recipient is in compliance with the Violence Against Women Reauthorization Act of 2022.

The Grant Recipient has reviewed its ordinances, local regulations, and policies (collectively referred to as “policies”) adopted by the local government and currently in effect, with the following results:

- No policies were identified that contain any financial or regulatory penalty imposed on property owners or residents as a result of any use of emergency services.
- Or
- The following policies were identified that may contain financial or regulatory penalties imposed on property owners or residents as a result of any use of emergency services.

Policy	Purpose of policy	Financial or regulatory penalty (or potential penalty)

The Grant Recipient commits to re-evaluating and addressing any policies identified above as follows:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The Grant Recipient understands that any policies identified above must be re-evaluated and addressed within the grant agreement period.

- A summary of efforts to evaluate alternative policies that do not impede the Right to Report Crime and Emergencies from One’s Home and a timeline for action on one or more alternatives must be submitted prior to the release of grant funds for construction.
- The timeline for implementation of alternative policies is subject to TDA review and approval; grant funds will be placed on hold if the Grant Recipient fails to comply with the requirements of this VAWA certification.

\_\_\_\_\_  
Name of Civil Rights Officer

\_\_\_\_\_  
Date policy review completed

\_\_\_\_\_  
Signature of Civil Rights Officer

\_\_\_\_\_  
Date of Certification

## Appendices B, F, and G

The Materials and Workmanship section of each sample contract is revised as follows – the Grant Recipient must select the appropriate language to reflect the items required by the phased implementation schedule:

### X. Materials and Workmanship

...

- (x) Domestic Preferences - As appropriate and to the extent consistent with law and to the greatest extent practicable under a Federal award, provide a preference 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 requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.

For purposes of this section:

- (1) “Produced in the United States” means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- (2) “Manufactured products” means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.
- (3) [Iron and steel products, Manufactured Products, and Construction Materials] used in this project comply with the Build America, Buy America Act (BABA) requirements mandated by Title IX of the Infrastructure Investment and Jobs Act (“IIJA”), Pub. L. 117-58.

**Contractor’s BABA Compliance Certification**

***Project Information***

<b>Grant Recipient</b>	
<b>Grant Number</b>	
<b>Project Description</b>	

This “*Contractor’s BABA Compliance Certification*” is a form that, in lieu of a Manufacturer’s Certification, the Prime Contractor may use to certify that, as required by the Build America, Buy America (BABA) Act, all of the iron, steel, manufactured products, and construction materials listed in the table below and incorporated into the public infrastructure project specified above are produced in the United States, unless exempted by a HUD general waiver or a project-/product-specific waiver approved by HUD and the Made in America Office (MIAO) at the Office of Management and Budget (OMB).

For Covered Materials not otherwise exempted from BABA requirements, the undersigned certifies the following:

- All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings occurred in the United States;
- All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mine, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product; and
- All construction materials used in the project are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.

*Use the table below to list all Covered Materials procured by the signatory, used in the project, and to be certified as BABA Compliant by the signatory. (If a material used in the project has been documented as BABA Compliant through another approved method, it does not need to be included on this list.)*

For “Type of Material”: Indicate if the material is Iron, Steel, Manufactured Product, or Construction Material.

Type of Material	Material	Cost Per Unit	Total Cost	Manufacturer



**Manufacturer’s BABA Compliance Certification**

***Purchase Information***

<b>Manufacturer</b>	
<b>Purchaser</b>	
<b>Purchase Date</b>	

This “*Manufacturer’s BABA Compliance Certification*” is a form that the Manufacturer may use to certify that, as required by the Build America, Buy America (BABA) Act, all of the iron, steel, manufactured products, and construction materials listed in the table below and purchased by the entity specified above are produced in the United States. No waivers (i.e. EPA’s Minor Components Waiver) will be accepted unless explicitly approved by the U.S. Department of Housing and Urban Development. Application of non-HUD waivers may result in non-compliance with BABA according to HUD’s guidance.

For Covered Materials listed in the table below, the undersigned certifies the following:

- All iron and steel products are produced in the United States.
  - This means all manufacturing processes, from the initial melting stage through the application of coatings occurred in the United States;
  - The term “iron and steel products” is defined in 2 CFR 184.3 as materials that consists wholly or predominantly of iron or steel, or a combination of both.
- All manufactured products used in the project are produced in the United States.
  - This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mine, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product; and
  - The term “manufactured products” is defined in 2 CFR 184.3 as materials that have been:
    - Processed into a specific form and shape; or
    - Combined with other materials to create a product with different properties than the individual materials.
- All construction materials used in the project are manufactured in the United States.
  - This means that all manufacturing processes for the construction material occurred in the United States.

*Use the table below to list all Covered Materials manufactured by the signatory, purchased by the entity specified above, and to be certified as BABA Compliant by the signatory.*

For “Type of Material”: Indicate if the material is Iron, Steel, Manufactured Product, or Construction Material.

Type of Material	Material Title/Description	Cost Per Unit	Total Cost



"General Decision Number: TX20260003 01/02/2026

Superseded General Decision Number: TX20250003

State: Texas

Construction Type: Heavy

Counties: Cameron, Hidalgo and Webb Counties in Texas.

HEAVY CONSTRUCTION PROJECTS

Modification Number      Publication Date  
 0                              01/02/2026

SUTX2011-003 08/02/2011

	Rates	Fringes
CEMENT MASON/CONCRETE		
FINISHER (Paving & Structures)...	\$ 12.46	
FORM BUILDER/FORM SETTER		
(Structures).....	\$ 12.30	
FORM SETTER (Paving & Curb).....	\$ 12.16	
LABORER		
Asphalt Raker.....	\$ 10.61	
Flagger.....	\$ 9.10	
Laborer, Common.....	\$ 9.86	
Laborer, Utility.....	\$ 11.53	
Pipelayer.....	\$ 11.87	
Work Zone Barricade		
Servicer.....	\$ 12.88	
POWER EQUIPMENT OPERATOR:		
Asphalt Distributor.....	\$ 13.48	
Asphalt Paving Machine.....	\$ 12.25	
Broom or Sweeper.....	\$ 10.33	
Crane, Lattice Boom 80		
Tons or Less.....	\$ 14.39	
Crawler Tractor.....	\$ 16.63	
Excavator, 50,000 lbs or		
less.....	\$ 12.56	
Excavator, over 50,000 lbs..	\$ 15.23	
Foundation Drill, Truck		
Mounted.....	\$ 16.86	
Front End Loader Operator,		
Over 3 CY.....	\$ 13.69	
Front End Loader, 3 CY or		
less.....	\$ 13.49	
Loader/Backhoe.....	\$ 12.77	
Mechanic.....	\$ 15.47	
Milling Machine.....	\$ 14.64	
Motor Grader Operator,		
Rough.....	\$ 14.62	
Motor Grader, Fine Grade....	\$ 16.52	
Scraper.....	\$ 11.07	
Servicer.....	\$ 12.34	
Steel Worker (Reinforcing).....	\$ 14.07	

TRUCK DRIVER

Lowboy-Float.....\$ 13.63  
 Single Axle.....\$ 10.82  
 Single or Tandem Axle Dump..\$ 14.53  
 Tandem Axle Tractor with  
 Semi Trailer.....\$ 12.12

WELDER.....\$ 14.02

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

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

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

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

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

supplemental classification rate.

#### Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

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

#### Union Average Rate Identifiers

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

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

#### Survey Rate Identifiers

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

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

#### State Adopted Rate Identifiers

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

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

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WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to [BCWD-Office@dol.gov](mailto:BCWD-Office@dol.gov) or by mail to:

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

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to [dba.reconsideration@dol.gov](mailto:dba.reconsideration@dol.gov) or by mail to:

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

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

3) If the decision of the Administrator is not favorable, an

interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

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

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END OF GENERAL DECISION

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# COLONIA CENTRAL ESTATES AND PRAXEDIS SALDIVAR SEWER IMPROVEMENTS PROJECT

## CIVIL - TECHNICAL SPECIFICATIONS

01 33 00 – Submittal Procedures .....	01 33 00 – 1 through 3
01 45 29 – Testing Laboratory Services.....	01 45 29 – 1 through 2
01 50 00 – Temporary Facilities and Controls .....	01 50 00 – 1 through 11
01 55 26 – Traffic Control and Regulations.....	01 55 26 – 1 through 3
01 57 23 – Temporary Storm Water Pollution Control.....	01 57 23 – 1 through 16
02 40 00 – Removing Existing Pavement and Structures.....	02 40 00 – 1 through 2
02 41 00 – Demolition .....	02 41 00 – 1 through 2
03 30 00 – Cast-in-Place Concrete / Concrete for Utility Construction .....	03 30 00 – 1 through 14
31 10 00 – Site Clearing - Preparation of Site.....	31 10 00 – 1 through 2
31 23 00 – Earthwork, Excavation, Fill, and Grading.....	31 23 00 – 1 through 2
31 23 13 – Subgrade Preparation .....	31 23 13 – 1 through 3
31 23 16 – Excavation .....	31 23 16 – 1 through 4
31 23 16.13 – Trench Safety System .....	31 23 16.13 – 1 through 3
31 23 16.16 – Excavation and Backfill for Structures .....	31 23 16.16 – 1 through 9
31 23 19 – Control of Ground Water and Surface Water .....	31 23 19 – 1 through 9
31 23 23.13 – Utility Backfill Materials.....	31 23 23.13 – 1 through 11
31 23 23.15 – Trench Backfill .....	31 23 23.15 – 1 through 11
31 23 33 – Excavation and Backfill for Utilities .....	31 23 33 – 1 through 15
31 32 13.16 – Cement Stabilized Sand .....	31 32 13.16 – 1 through 6
31 32 19.16 – Geotextile.....	31 32 19.16 – 1 through 6
31 34 19.13 – Geogrid Soil Reinforcement .....	31 34 19.13 – 1 through 1
31 41 00 – Shoring.....	31 41 00 – 1 through 2
32 01 00 – Pavement Repair and Resurfacing .....	32 01 00 – 1 through 2
32 11 13.13 – Lime Treatment for Subgrade .....	32 11 13.13 – 1 through 4
32 11 23 – Crushed Limestone Flexible Base .....	32 11 23 – 1 through 2
32 12 13.19 – Prime Coat.....	32 12 13.19 – 1 through 1
32 12 16.13 – Hot Mix Asphaltic Concrete Pavement .....	32 12 16.13 – 1 through 4
32 13 13 – Concrete Pavement.....	32 12 16.13 – 1 through 20
32 16 00 – Concrete Curbs, Gutters, Driveways & Sidewalks .....	32 16 00 – 1 through 3
32 31 13 – Chain Link Fences and Gates .....	32 31 13 – 1 through 13
32 91 13 – Soil Preparation .....	32 91 13 – 1 through 4

32 05 31.13 – Polyvinyl Chloride Pressure Pipe .....	32 05 31.13 – 1 through 4
33 05 33 – Polyethylene Wrap .....	33 05 33 – 1 through 4
33 11 13.13 – Ductile Iron Pipe and Fittings .....	33 11 13.13 – 1 through 5
33 12 16.13 – Tapping Sleeves and Valves.....	33 12 16.13 – 1 through 4
33 31 00 – Sanitary Utility Sewerage .....	33 31 00 – 1 through 8
33 39 13 – Frames, Grates, Rings, and Covers .....	33 39 13 – 1 through 2

**SECTION 01 33 00**

**SUBMITTAL PROCEDURES**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

1. Submittal procedures for:
  1. Schedule of Values.
  2. Construction Schedules.
  3. Shop Drawings, Product Data, and Sampler.
  4. Operations and Maintenance Data.
  5. Manufacturer's Certificates.
  6. Construction Photographs.
  7. Project Record Documents.
  8. Video Tapes.
  9. Design Mixes.

**1.2 SUBMITTAL PROCEDURES**

1. Scheduling and Handling:
  1. Schedule submittals well in advance of the need for the material or equipment for construction. Allow time to make delivery of material or equipment after submittal is approved.
  2. Develop a submittal schedule that allows sufficient time for initial review, correction, resubmission and final review of all submittals. The Owner will review and return submittals to the Contractor as expeditiously as possible but the amount of time required for review will vary depending on the complexity and quantity of data submitted. In no case will a submittal schedule be acceptable which allows less than 10 days for initial review by the Owner. This time for review shall in no way be justification for delays or additional compensation to the Contractor.
  3. The Owner's review of submittals covers only general conformity to the Drawings, Specifications and dimensions which affect the layout. The Contractor is responsible for quantity determination. No quantities will be verified by the Owner. The Contractor is responsible for any errors, omissions or deviations from the Contract requirements; review of submittals in no way relieves the Contractor from his obligation to furnish required items according to the Drawings and Specifications.
  4. Submit 4 copies of documents unless otherwise specified in the following paragraphs or in the Specifications.
  5. Revise and resubmit submittals as required. Identify all changes made since previous submittal.

**COLONIA CENTRAL ESTATES AND PRAXEDIS SALDIVAR  
SEWER IMPROVEMENTS PROJECT– January 2026**

2 of 3

6. The Contractor shall assume the risk for material or equipment which is fabricated or delivered prior to approval. No material or equipment shall be incorporated into the Work or included in periodic progress payments until approval has been obtained in the specified manner.
2. Transmittal Form and Numbering:
  1. Transmit each submittal to the Owner with a Transmittal Form.
  2. Sequentially number each transmittal form beginning with the number 1. Resubmittals shall use the original number with an alphabetic suffix (i.e., 2A for first resubmittal of Submittal 2 or 15C for third resubmittal of Submittal 15). Each submittal shall only contain one type of work, material, or equipment. Mixed submittals will not be accepted.
  3. Identify variations from requirements of Contract Documents and identify product or system limitations.
  4. For submittal numbering of video tapes, see paragraph 1.10 Video.
3. Contractor's Stamp:
  1. Apply Contractor's stamp, certifying that the items have been reviewed in detail and are correct and in accordance with Contract Documents, except as noted by any requested variance.
  2. As a minimum, Contractor's Stamp shall include:
    1. Contractor's name.
    2. Job number.
    3. Submittal number.
    4. Certification statement that the Contractor has reviewed the submittal and it is in compliance with the Contract Documents.
    5. Signature line for Contractor.

### 1.3 MANUFACTURER'S CERTIFICATES

1. When specified in Specification sections, submit manufacturers' certificate of compliance for review by the Owner.
2. Contractor's Stamp, as described in paragraph 3.2, shall be placed on front page of the certification.
3. Submit supporting reference data, affidavits, and certifications as appropriate.
4. Certificates may be recent or previous test results on material or product, but must be acceptable to the Owner.

### 1.4 DESIGN MIXES

1. When specified in Specifications, submit design mixes for review.
2. Contractor's Stamp, as described in paragraph 3.2, shall be placed on front page of each design mix.
3. Mark each design mix to identify proportions, gradations, and additives for each class and type of design mix submitted. Include applicable test results on samples for each mix.

4. Maintain a copy of approved design mixes at mixing plant.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

**SECTION 01 45 29**

**TESTING LABORATORY SERVICES**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

1. Testing laboratory services and Contractor responsibilities related to those services.

**1.2 REFERENCES**

1. ASTM C 1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
2. ASTM D 3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials.
3. ASTM D 3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
4. ASTM E 329 - Specification for Minimum Requirements for Agencies Engaged the Testing and/or Inspection of Materials Used in Construction.
5. ISO/TEC Guide 25 - General Requirements for the Competence of Calibration and Testing Laboratories.

**1.3 DELETED**

**1.4 QUALIFICATION OF LABORATORY**

1. Meet laboratory requirements of ASTM E 329 and applicable requirements of ASTM C 1077, ASTM D 3666, and ASTM D 3740.
2. Meet the ISO/TEC Guide 25 conditions for accreditation by the American Association for Laboratory Accreditation (A2LA) in specific fields of testing required in individual Specification sections.
3. Where a laboratory subcontracts any part of the testing services, such work shall be placed with a laboratory complying with the requirements of this Section.

**1.5 LABORATORY REPORTS**

1. The testing laboratory shall provide and distribute copies of laboratory reports to the following: the Owner, the Engineer, and the Contractor. Other copies of the reports may be required to be submitted to other parties. The testing laboratory will be informed of any other persons that required laboratory reports.
2. Before close of business on the working day following test completion and review, reports which indicate failing test results shall be transmitted immediately via fax from the testing laboratory to the Owner, Contractor, and Engineer.

**1.6 LIMITS ON TESTING LABORATORY AUTHORITY**

1. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Laboratory may not approve or accept any portion of the Work.
3. Laboratory may not assume any duties of the Contractor.
4. Laboratory has no authority to stop the Work. The laboratory's representative shall immediately inform the Engineer and the Owner of any conflicts with the Contractor or Contractor's construction methods.

#### 1.7 CONTRACTOR RESPONSIBILITIES

1. Provide safe access to the Work and to manufacturer's facilities for the Owner, Engineer, and testing laboratory personnel.
2. Provide to the testing laboratory a copy of the construction schedule and a copy of each update to the construction schedule.
3. Notify the Engineer and the testing laboratory during normal working hours of the day previous, but not less than 24 hours prior notice, to the expected time for operations requiring inspection and testing services. If the Contractor fails to make timely prior notification, then the Contractor shall not proceed with the operations requiring inspection and testing services.
4. Notify the Engineer 24 hours in advance if the Specification requires the presence of the Engineer for sampling or testing.
5. Request and monitor testing as required to provide timely results and to avoid delay to the Work. Provide samples to the laboratory in sufficient time to allow the required test to be performed in accordance with specified test methods before the intended use of the material.
6. Cooperate with laboratory personnel in collecting samples on site. Provide incidental labor and facilities for safe access to the Work to be tested; to obtain and handle samples at the site or at source of products to be tested; and to facilitate tests and inspections including storage and curing of test samples.

#### PART 2 PRODUCTS - Not Used

#### PART 3 EXECUTION

##### 3.01.1 CONDUCTING TESTING

1. Laboratory sampling and testing specified in individual Specification sections shall conform to the latest issues of ASTM standards, TxDOT methods, or other recognized test standards as approved by the Engineer.
2. The requirements of this section shall also apply to those tests for approval of materials, for mix designs, and for quality control of materials as performed by the testing laboratories employed by the Contractor.
3. The Contractor may not influence any field testing conducted by the Laboratory.

END OF SECTION

**SECTION 01 50 00**

**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

1. Temporary facilities and the necessary controls for the project including utilities, telephone, sanitary facilities, field office, storage sheds and building, safety requirements, first aid equipment, fire protection, security measures, protection of the Work and property, access roads and parking, environmental controls, disposal of trash, debris, and excavated material, pest and rodent control, water runoff and erosion control.
2. The facilities and controls specified in this section are considered minimum for the Project. The Contractor may provide additional facilities and controls for the proper execution of the Work and to meet Contractor's responsibilities for protection of persons and property.

**1.2 CONTRACTOR'S RESPONSIBILITY**

1. Comply with applicable requirements specified in other sections of the Specifications.
  1. Maintain and operate temporary facilities and systems to assure continuous service.
  2. Modify and extend systems as Work progress requires.
  3. Completely remove temporary materials and equipment when their use is no longer required.
  4. Restore existing facilities used for temporary services to specify or to original condition.

**1.3 TEMPORARY UTILITIES**

1. Obtaining Temporary Service:
  1. Make arrangements with utility service companies for temporary services.
  2. Abide by rules and regulations of the utility service companies or authorities having jurisdiction.
  3. Be responsible for utility service costs until the Work is substantially complete. Included are fuel, power, light, heat, and other utility services necessary for execution, completion, testing, and initial operation of the Work.

2. Water:
  1. Provide water required for and in connection with Work to be performed and for specified tests of piping, equipment, devices, or for other use as required for proper completion of the Work.
  2. For water to be drawn from public fire hydrants, obtain special permit or license from the proper Utility officials. A deposit based on rates established by latest ordinance will be required.
  3. Provide and maintain an adequate supply of potable water for domestic consumption by Contractor personnel and the Owner or his Representatives.
3. Electricity and Lighting:
  1. Provide electric powered service as required for the Work, including testing of Work. Provide power for lighting, operation of the Contractor's equipment, or for any other use by Contractor.
  2. Electric power service includes temporary power service or generator to maintain plant operations during any scheduled shutdown.
  3. Minimum lighting level shall be 5 foot-candles for open areas; 10-foot-candles for stairs and shops. Provide a minimum of one 300-watt lamp for each 20 square feet in work area.
4. Temporary Heat and Ventilation:
  1. Provide temporary heat as necessary for protection or completion of the Work.
  2. Provide temporary heat and ventilation to assure safe working conditions; maintain enclosed areas at a minimum of 50 degrees F.
5. Telephone:
  1. Provide emergency telephone service at the Contractor's office for use by Contractor personnel and others performing work or furnishing services at the site.
  2. Provide a separate phone line and instrument in the field office, if used, for the Owner or his representatives. Cost for local calls and other project-related calls made by the Inspector shall be paid for by the Contractor.
6. Sanitary Facilities:
  1. Provide and maintain sanitary facilities for persons on the job site; comply with the regulations of State and local departments of health.
  2. Enforce the use of sanitary facilities by construction personnel at the job site. Such facilities shall be enclosed. Pit-type toilets will not be permitted. No discharge will be allowed from these facilities. Collect and store sewage and waste so as not to cause a nuisance or health problem; have sewer and waste hauled off-site and properly disposed in accordance with City and County regulations.

3. Locate toilets near the Work site and secluded from view insofar as possible. Keep toilets clean and supplied throughout the course of the Work.

#### 1.4 FIELD OFFICE

1. Furnish and Locate:

1. Furnish, install, and maintain a field office for the use of the Owner and his representatives. Provide sufficient room for project meetings. Locate the office at the Site in a place approved by the Owner.
2. Provide office space ready for occupancy, 10 days after date fixed in Notice to Proceed.
3. Construct two all-weather, hard surfaced parking spaces, suitable for weather and duration of Project, for use by the Contractor and the Owner or his representatives. Provide an all-weather surfaced walk between the parking spaces and the office.

2. Minimum Construction:

1. Structurally sound foundation and superstructure.
2. Completely weather tight with insulated roof and walls.
3. Exterior finish and interior finish acceptable to the Owner.
4. Stairs or walkway with handrail and entrance platform (4' x 4') with a mud scraper at door.
5. Resilient floor covering.
6. Screened windows with an area equal to approximately 10 percent of floor area sufficient for light, view, and ventilation. Provide windows with operable sash.
7. Secure lockable exterior doors with dead bolt cylinder locks.

3. Minimum Services:

1. Exterior light at entrance.
2. Interior lighting of 50 foot-candles at desktop height.
3. Automatic heating to maintain 65 degrees F in winter.
4. Automatic cooling to maintain 75 degrees F in summer.
5. Electric power service.
6. Four electric wall outlets.
7. Separate telephone service.

8. Chilled drinking water.
  9. Separate sanitary facilities with one water closet and one lavatory and medicine cabinet.
  10. Plumbing and sewers as required, protected from freezing.
4. Minimum Furnishings:
1. Two 5-drawer desks.
  2. Two swivel desk chairs.
  3. One drafting table with built-in drawer, drafting stool, and light.
  4. One plan rack to hold eight racks of drawings.
  5. Two 4-drawer legal file cabinets.
  6. Book shelving and bookcase with a minimum of 15 feet of shelf space.
  7. Two waste baskets.
  8. One tack board 30 inches by 36 inches.
  9. Fire extinguishers.
  10. Identifying exterior sign acceptable to the Owner.
  11. First aid kit.
  12. Six protective helmets (hard hats) for use by visitors.
  13. Conference table and chairs to accommodate 15 persons.
  14. Fax machine.
  15. Other furnishings at Contractor's option.
5. Maintenance:
1. Schedule continuous maintenance of office, walkways, and services; cleaned not less than once per week;
  2. Provide soap, paper towels, cleansers, janitorial service and appurtenances;
  3. Immediately repair any damage, leaks or defective service.
6. Provide adequate space for one set of Contract Documents in the office for ready reference.

#### 1.5 STORAGE SHEDS AND BUILDINGS

1. Provide adequately ventilated, watertight storage facilities with floor above ground level for materials and equipment susceptible to weather damage.
2. Storage of materials not susceptible to weather damage may be on blocks off the ground.
3. Store materials in a neat and orderly manner. Place materials and equipment to permit easy access for identification, inspection and inventory.
4. Fill and grade site for temporary structures to provide drainage away from temporary and existing buildings.

#### 1.6 SAFETY REQUIREMENTS

1. Submit and follow a safety program in accordance with Document 00700 - General Conditions, Paragraph 10.1. Include in the safety program documented response to trench safety requirements as specified in Section 31 23 16.13 - Trench Safety System.
2. Conduct operations in strict accord with applicable Federal, State and local safety codes and statutes and with good construction practice. The Contractor is fully responsible and obligated to establish and maintain procedures for safety of all work, personnel and equipment involved in the Project.
3. Observe and comply with Texas Occupational Safety Act (Art. 5182a, V.C.S.) and with all safety and health standards promulgated by Secretary of Labor under Section 107 of Contract Work Hours and Standards Act, published in 29 CFR Part 1926 and adopted by Secretary of Labor as occupational safety and health standards under the Williams-Steiger Occupational Safety and Health Act of 1970, and to any other legislation enacted for safety and health of Contractor employees. Such safety and health standards apply to subcontractors and their employees as well as to the Contractor and its employees.
4. Observance of and compliance with the regulations shall be solely and without qualification the responsibility of the Contractor without reliance or superintendence of or direction by the Owner or his representative. Immediately advise the Owner and engineer of investigation or inspection by Federal Safety and Health inspectors of the Contractor or subcontractor's work or place of work on the job site under this Contract, and after such investigation or inspection, advise the Owner and engineer of the results. Submit one copy of accident reports to Owner within 10 days of occurrence.
5. Protect areas occupied by workmen using the best available devices for detection of lethal and combustible gases. Test such devices frequently to assure their functional capability. Constantly observe infiltration of liquids into the Work area for visual or odor evidences of contamination, immediate take appropriate steps to seal off entry of contaminated liquids to the Work area.
6. Safety measures, including but not limited to safety personnel, first-aid equipment, ventilating equipment and safety equipment, in the specifications and shown on the Drawings are obligations of the Contractor.
7. Maintain required coordination with the City's Police and Fire Departments during the entire period covered by the Contract.

#### 1.7 FIRST AID EQUIPMENT

1. Provide a first aid kit throughout the construction period. List telephone numbers for physicians, hospitals, and ambulance services in each first aid kit.
2. Have at least one person thoroughly trained in first aid procedures present on the site whenever Work is in progress.

#### 1.8 FIRE PROTECTION

1. Conform to specified fire protection and prevention requirements established by Federal, State, or local governmental agencies and as provided in Contractor's Safety Program.

#### 1.9 SECURITY MEASURES

1. Protect all Work materials, equipment, and property from loss, theft, damage, and vandalism. Contractor's duty to protect property includes public property, and property of the Owner and his representatives used in connection with the performance of the Contract.
2. If existing fencing or barriers are breached or removed for purposes of construction. Provide and maintain temporary security fencing equal to existing.

#### 1.10 PROTECTION OF PUBLIC UTILITIES

1. Prevent damage to existing public utilities during construction. These utilities are shown on the Drawings at their approximate locations. Give owners of these utilities at least 48 hours notice before commencing Work in the area, for locating the utilities during construction, and for making adjustments or relocation of the utilities when they conflict with the proposed Work.
2. Utilize the Utility Coordinating Committee One Call System, telephone number, (713) 223-4567, which must be called 48 hours in advance. The toll free telephone number is 1-800-669-8344, Texas One Call System.

#### 1.11 PROTECTION OF THE WORK AND PROPERTY

1. Preventive Actions:
  1. Take precautions, provide programs, and take actions necessary to protect the Work and public and private property from damage.
  2. Take action to prevent damage, injury or loss, including, but not be limited to, the following:
    1. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with progress of the Work or the Work of any other contractor, any utility service company, or the City's operations.
    2. Provide suitable storage for materials which are subject to damage by exposure to weather, theft, breakage, or otherwise.

3. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
  4. Frequently clean up refuse, rubbish, scrap materials, and debris caused by construction operations, keeping the Project site safe and orderly.
  5. Provide safe barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways, and other hazardous areas.
3. Obtain written consent from proper parties before entering or occupying with workers, tools, materials or equipment, privately-owned land except on easements provided for construction.
  4. Assume full responsibility for the preservation of public and private property on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect, or misconduct in execution of the Work by the Contractor, it shall be restored by the Contractor to a condition equal to or better than that existing before the damage was done.
2. **Barricades and Warning Signals:** Where Work is performed on or adjacent to any roadway, right-of-way, or public place, furnish and erect barricades, fences, lights, warning signs, and danger signals; provide watchmen; and take other precautionary measures for the protection of persons or property and protection of the Work. Use barricades painted to be visible at night. From sunset to sunrise, furnish and maintain at least one light at each barricade. Erect sufficient barricades to keep vehicles from being driven on or into Work under construction. Furnish watchmen in sufficient numbers to protect the Work. Maintain barricades, signs, and lights, and provide watchmen until the Project is accepted by the Owner, engineer, and building officials.
  3. **Tree and Plant Protection:** Trees, shrubs, lawns, existing structures, and other permanent objects in work area. If damaged, contractor shall be responsible for restoration of any of the above items to their original condition. **Protection of Existing Structures:**
    1. **Underground Structures:**
      1. Underground structures are defined to include, but not be limited to, sewer, water, gas, and other piping, and manholes, chambers, electrical and signal conduits, tunnels, and other existing subsurface installations located within or adjacent to the limits of the Work.
      2. Known underground structures, including water, sewer, electric, and telephone service connections are shown on the Drawings. This information is shown for the assistance of the Contractor in accordance with the best information available, but is not guaranteed to be correct or complete.
      3. Explore ahead of trenching and excavation work and uncover obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption of utility services. Restore to original condition damages to underground structure at no additional cost to the Owner.

4. Necessary changes in location of the Work may be made by the Engineer to avoid unanticipated underground structures.
  5. If permanent relocation of an underground structure or other subsurface installations is required and not otherwise provided for in the Contract Documents, the Engineer will direct Contractor in writing to perform the Work, which shall be paid for under the provisions for change orders in the Contract Document - General Conditions.
2. **Surface Structures:** Surface structures are defined as existing buildings, structures and other constructed installations above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks, guard cables, fencing, and other facilities that are visible above the ground surface.
  3. **Protection of Underground and Surface Structures:**
    1. Support in place and protect from direct or indirect injury underground and surface structures located within or adjacent to the limits of the Work. Install such supports carefully and as required by the party owning or controlling such structure. Before installing structure supports, Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the owner of the structure.
    2. Avoid moving or in any way changing the property of public utilities or private service corporations without prior written consent of a responsible official of that service or public utility. Representatives of these utilities reserve the right to enter within the limits of this project for the purpose of maintaining their properties, or of making such changes or repairs to their property that may be considered necessary by performance of this Contract.
    3. Notify the owners and/or operators of utilities and pipelines of the nature of construction operations to be performed and the date or dates on which those operations will be performed. When construction operations are required in the immediate vicinity of existing structures, pipelines, or utilities, give a minimum of 5 working days advance notice. Probe and flag the location of underground utilities prior to commencement of excavation. Keep flags in place until construction operation reach and uncover the utility.
    4. Assume risks attending the presence or proximity of underground and surface structures within or adjacent to the limits to the Work including but not limited to damage and expense for direct or indirect injury caused by his Work to any structure. Immediately repair damage caused, to the satisfaction of the owner of the damaged structure.
  4. **Protection of Installed Products:**
    1. Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of Work.

2. Control traffic to prevent damage to equipment, materials, and surfaces.
3. Provide coverings to protect equipment and materials from damage. Cover projections, wall corners, jambs, sills, and exposed sides of openings in areas used for traffic and for passage of materials in subsequent work.

1.12 ROADS AND PARKING

1. Prevent interference with traffic and public operations on existing roads.
2. Designate temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking. Locate as approved by the Owner.
3. Minimize use by construction traffic of existing streets and driveways.
4. Do not allow heavy vehicles or construction equipment in existing parking areas.

1.13 ENVIRONMENTAL CONTROLS

1. Provide and maintain methods, equipment, and temporary construction as necessary for controls over environmental conditions at the construction site and adjacent areas.
2. Comply with statutes, regulations, and ordinances which relate to the proposed Work for the prevention of environmental pollution and preservation of natural resources, including but not limited to the National Environmental Policy Act of 1969, PL 91-190, Executive Order 11514.
3. The Owner recognizes that the site has considerable natural value and that construction of projects should have minimum impact to the surrounding environment. The Contractor shall adopt construction procedures that do not cause unnecessary excavation and filling of the terrain, indiscriminate destruction of vegetation, air or stream pollution, nor the harassment or destruction of wildlife.
4. Recognize and adhere to the environmental requirements of the Project. Disturbed areas shall be strictly limited to boundaries established by the Contract Documents. Particularly avoid pollution of "on-site" streams, sewers, wells, or other water sources.
5. Burning of rubbish, debris or waste materials is not permitted.

1.14 POLLUTION CONTROL

1. Provide methods, means, and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious substances from construction operations.
2. Provide equipment and personnel to perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids. Excavate and dispose of any contaminated earth off-site, and replace with suitable compacted fill and topsoil.
3. Take special measures to prevent harmful substances from entering public waters. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
4. Provide systems for control of atmospheric pollutants.

1. Prevent toxic concentrations of chemicals.
2. Prevent harmful dispersal of pollutants into the atmosphere.
5. Use equipment during construction that conforms to current Federal, State, and local laws and regulations.

#### 1.15 PEST AND RODENT CONTROL

1. Provide rodent and pest control as necessary to prevent infestation of construction or storage areas.
2. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

#### 1.16 NOISE CONTROL

1. Provide vehicles, equipment, and construction activities that minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and City Ordinances and in no case will noise levels be permitted which interfere with other work or create a nuisance in the surrounding residential neighborhoods.
2. Conduct construction operations during daylight hours except as approved by Owner and Engineer.
3. Select construction equipment to operate with minimum noise and vibration. If in the opinion of the City, Owner or Engineer, objectionable noise or vibration is produced by equipment, rectify such conditions without additional cost to the Owner. The Sound Power Level (PWL) of any equipment shall not exceed 85 dbA (re: 10<sup>-12</sup> watts) measured 5 feet from the piece of equipment, or the levels prescribed by City Ordinances, whichever is lower. Explicit equipment noise requirements are specified with equipment specifications.

#### 1.17 DUST CONTROL

1. Control objectionable dust caused by operation of vehicles and equipment. Apply water or use other methods, subject to approval of the City, Owner and Engineer, which will control the amount of dust generated.

#### 1.18 WATER RUNOFF AND EROSION CONTROL

1. Where required, the Contractor shall comply with the National Pollutant Discharge Elimination system (NPDES) permit as stated in the Federal Register, Vol.57, and No.175.
2. In addition to the NPDES requirements the Contractor shall:
  1. Provide methods to control surface water, runoff, subsurface water, and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties.

2. Control fill, grading and ditching to direct water away from excavations, pits, tunnels, and other construction areas; and to direct drainage to proper runoff courses so as to prevent any erosion, sedimentation or damage.
3. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.
4. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas and in conformance with environmental requirements.
5. Retain existing drainage patterns external to the construction site by constructing temporary earth berms, sedimentation basins, retaining areas, and temporary ground cover as needed to control conditions.
6. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
  1. Keep to a minimum the area of bare soil exposed at one time.
  2. Provide temporary control measures, such as berms, dikes, and drains.
7. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
8. Inspect earthwork periodically to detect any evidence of the start of erosion. Apply corrective measures as required to control erosion.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION

**SECTION 01 55 26**  
**TRAFFIC CONTROL AND REGULATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

1. Requirements for signs, signals, control devices, flares, lights and traffic signals, as well as construction parking control, designated haul routes and bridging of trenches and excavations.
2. Requirement for and qualifications of flagmen.

1.02 SUBMITTALS

1. The contractor shall submit prior to the beginning of work a Traffic Control Plan responsive to the Texas Manual on Uniform Traffic Control Devices (TMUTCD) and sealed by a Registered Professional Engineer.
2. For both the traffic control plan and flagmen use, submit schedules of values within 30 days following the Notice to Proceed.
3. Make submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.03 UNIT PRICES

No payment will be made for Traffic Control and Regulation. Costs associated with this item are subsidiary to other items.

PART 2 PRODUCTS

2.01 SIGNS, SIGNALS, AND DEVICES

1. Comply with Texas State Manual on Uniform Traffic Control Devices.
2. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.

PART 3 EXECUTION

3.01 PUBLIC ROADS

1. Abide by laws and regulations of governing authorities when using public roads. If the Contractor's work requires that public roads be temporarily impeded or closed, approvals shall be obtained from governing authorities and permits paid for before starting any work. Coordinate activities with the City, County, and Owner.
2. Contractor shall maintain at all times a 10-foot-wide all-weather lane adjacent to work areas which shall be kept free of construction equipment and debris and shall be for the use of emergency vehicles, or as otherwise provided in the traffic control plan.
3. Contractor shall not obstruct the normal flow of traffic from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on designated major arterials or as directed by the City and County.
4. Contractor shall maintain local driveway access to residential and commercial properties adjacent to work areas at all times.

5. Cleanliness of Surrounding Streets: Keep streets used for entering or leaving the job area free of excavated material, debris, and any foreign material resulting from construction operations.

### 3.02 CONSTRUCTION PARKING CONTROL

1. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and County and City's operations.
2. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
3. Prevent parking on or adjacent to access roads or in non-designated areas.

### 3.03 FLARES AND LIGHTS

1. Provide flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

### 3.04 HAUL ROUTES

1. Utilize haul routes designated by authorities or shown on the Drawings for construction traffic.
2. Confine construction traffic to designated haul routes.
3. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

### 3.05 TRAFFIC SIGNS AND SIGNALS

1. Install traffic control devices at approaches to the site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
2. Install and operate traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control and areas affected by Contractor's operations.
3. Relocate traffic signs and signals as Work progresses to maintain effective traffic control.

### 3.06 BRIDGING TRENCHES AND EXCAVATIONS

1. Whenever necessary, bridge trenches and excavation to permit an unobstructed flow of traffic.
2. Secure bridging against displacement by using adjustable cleats, angles, bolts or other devices whenever bridge is installed:
  - a. On an existing bus route;
  - b. When more than five percent of daily traffic is comprised of commercial or truck traffic;
  - c. When more than two separate plates are used for the bridge; or
  - d. When bridge is to be used for more than five consecutive days.

3. Install bridging to operate with minimum noise.
4. Adequately shore the trench or excavation to support bridge and traffic.
5. Extend steel plates used for bridging a minimum of one foot beyond edges of trench or excavation. Use temporary paving materials (premix) to feather edges of plates to minimize wheel impact on secured bridging.
6. Use steel plates of sufficient thickness to support H-20 loading truck or lane that produces maximum stress.

3.07 REMOVAL

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.
3. Remove post settings to a depth of 2 feet.

PART 4 PAYMENT

4.02 UNIT PRICES

- A. Unless indicated in the Unit Prices Section (1.03) as a pay item, no separate payment will be made for work performed under this Section. Include cost of work performed under this Section in pay items of which this work is a component.

END OF SECTION

## Stormwater Construction Site Inspection Report

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

### Site-specific BMPs

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

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

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

**Overall Site Issues**

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

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

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

**Non-Compliance**

Describe any incidents of non-compliance not described above:

**CERTIFICATION STATEMENT**

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

**Print name and title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**SECTION 01 57 23**

**TEMPORARY STORM WATER POLLUTION CONTROL**

**PART 1 - GENERAL**

**1.1 DEFINITIONS**

- 1.1.1 BMP – Best Management Practices
- 1.1.2 CSN –Construction Site Notice- (Large CSN for large sites; Small CSN for small sites)
- 1.1.3 NOI and NOT – Notice of Intent and Notice of Termination for TPDES permits
- 1.1.4 SWPPP – Storm Water Pollution Prevention Plan
- 1.1.5 TCEQ – Texas Commission on Environmental Quality
- 1.1.6 TPDES – Texas Pollutant Discharge Elimination System
- 1.1.7 Large Construction Activities – Construction activities including clearing, grading and excavating that result in land disturbance equal to or greater than 5 acres of land
- 1.1.8 Small Construction Activities - Construction activities including clearing, grading and excavating that result in land disturbance equal to or greater than 1 acre and less than 5 acres of land

**1.2 RELATED DOCUMENTS AND APPLICABLE WORK**

- 1.2.1 The TCEQ TPDES General Permit No. TXR150000 effective March 5, 2013 and the project SWPPP. This specification requires compliance with all provisions of the TCEQ TPDES permit. The TCEQ requirements currently pertain to large construction activities of 5 acres or more and small construction activities that disturb 1 to less than 5 acres.
- 1.2.2 Information to Respondents, Agreement, Uniform General and Supplementary General Conditions for The University of Texas System Building Construction Contracts (UGC) and Special Conditions shall be read carefully for provisions pertaining to this work. In the event of conflict, the better quality or greater quantity shall prevail.
- 1.2.3 The work described in this section is applicable to any and all sections of the contract documents. Any and all work that would disturb the existing site conditions or present the potential for site runoff shall adhere fully to this specification section.
- 1.2.4 Unless specifically notified to the contrary in writing by the Owner, all aspects of this specification shall apply to this project.

**1.3 CONTRACTOR RESPONSIBILITIES**

- 1.3.1 Contractor shall be responsible for providing a Storm Water Pollution Prevention Plan for this project (SWPPP), prepared and sealed by a civil engineer licensed in the State of Texas. This project requires implementation of storm water Best Management Practices for control devices and monitoring by the Contractor to comply with all provisions of the SWPPP developed for the project by the licensed civil engineer. The Contractor must fulfill all TPDES regulatory requirements, including the filing of the NOI and NOT or signing and posting of the CSN.

- 1.3.2 The Contractor shall provide signatures of a Corporate Officer for the NOI, Large CSN, Small CSN, NOT and any other forms or applications as required by the TPDES General Permit TXR150000. The Contractor shall also provide delegated authorization to sign reports per 30 TAC 305.128. Individuals conducting site inspections shall be qualified to the satisfaction of the Owner.
- 1.3.3 When the Contractor receives the approved SWPPP from the Owner, the Contractor signs the NOI or Small CSN (see Sample form in Part 4 of this section) and forwards it to the Owner. Two separate \$325 application fees (one for the Owner and one for the Contractor) must accompany the NOI. The Owner signs his NOI and sends both NOIs and application fees to TCEQ. The Contractor shall insert a copy of the signed NOI or Small CSN into the SWPPP book to be kept at the jobsite. The \$325 application fees are not required for small construction sites.
- 1.3.4 The SWPPP book kept at the jobsite shall also contain the following:
- 1.3.4.1 A letter delegating signature authority to the field personnel for both the Contractor and the Owner
  - 1.3.4.2 A copy of the TPDES permit when received
  - 1.3.4.3 A copy of the Large or Small CSN
  - 1.3.4.4 A copy of the Shared SWPPP Acceptance Certification form
- 1.3.5 The Contractor shall review the SWPPP and verify existing conditions at the site before determining scope of implementation of site controls. Site survey and site plan drawings shall be used for additional reference. The Contractor shall notify the Owner, in advance, of this site review to allow for Owner participation.
- 1.3.6 The Contractor shall construct a Project SWPPP sign and place it at the main entrance to the project site. This sign shall include the NOI and TPDES permit along with the TCEQ TPDES Large or Small CSN, depending on the size of the construction project. The sign shall be constructed as detailed in the sample SWPPP sign drawing included in Part 4 of this Section.
- 1.3.7 The Contractor shall contact Owner's representative for review of initial site controls in place prior to commencing site-disturbing activities, to ensure that any unusual circumstances or unforeseen site conditions with regard to erosion and sedimentation have been addressed. The Contractor shall complete the SWPPP Project Start-up form (see Sample in Part 4 of this Section)) and review it with the Owner before commencing soil disturbing activities. Both parties shall sign this form when the requirements listed in the SWPPP Project Start-up form have been met.
- 1.3.8 The Contractor shall provide all material, labor, equipment and services required to implement, maintain and monitor all erosion and sedimentation controls in compliance with the SWPPP. All controls implemented by the Contractor shall comply with the TPDES regulations as issued by the TCEQ on March 5, 2013. These controls shall remain in operation until project completion and re-establishment of the site or longer as directed by the Owner's representative. The work shall include, but not be limited to, the following:
- 1.3.8.1 All earthwork as required to implement swales, dikes, basins and other excavations for temporary routing of utilities, to protect against erosion or sediment-laden (polluted)

storm water runoff.

- 1.3.8.2 All structural controls as shown or specified, including silt fences, sediment traps, stabilized construction entrance, subsurface drains, pipe slope drains, inlet/outlet protection, reinforced soil retention, gabions, rock berms, etc.
- 1.3.8.3 All non-structural controls as shown or specified, including temporary or permanent vegetation, mulching, geotextiles, sod stabilization, preservation of vegetative buffer strips, preservation/protection of existing trees and other mature vegetation.
- 1.3.8.4 All modifications and revisions to SWPPP necessary to meet changing site conditions and to address new sources of storm water discharges, as the work progresses.
- 1.3.8.5 All maintenance and repair of structural and non-structural controls in place shall continue until final stabilization is achieved or as directed by the RCM.
- 1.3.8.6 Weekly site inspections, as required by the SWPPP, of pollutant sources, including hazardous sources, structural and non-structural controls, and all monitoring of SWPPP revisions and maintenance of inspection records.
- 1.3.8.7 Removal of all structural and non-structural controls as necessary upon completion, and only after final stabilization is achieved.
- 1.3.8.8 Filing of NOT with the RCM within 30 days of final stabilization being achieved and being approved by the Owner, or of another Operator assuming control of the unstabilized portions of the site.
- 1.3.8.9 Refer to the SWPPP for additional requirements to ensure compliance with TPDES regulations.

#### 1.4 QUALITY ASSURANCE

- 1.4.1 In order to minimize the discharge of pollutants to storm water, the Contractor shall implement all permanent and temporary site controls according to TPDES Guidelines, as set forth by the TCEQ.
- 1.4.2 Implementation of site controls shall be performed by a qualified contractor experienced in the proper installation of such devices in accordance with manufacturers' specifications, and in keeping with recognized Best Management Practices (BMPs), and in keeping with TPDES regulations. Qualification of installing Contractor shall be reviewed with the Owner prior to entering into a contract with them for services.
- 1.4.3 The Contractor shall inspect all BMPs at regular intervals as specified in the Storm Water Pollution Prevention Plan for this project. Use standard Owner Inspection forms (see form at the end of this Section) for each inspection. Record all deficiencies of site controls, and take immediate action to correct any deficiencies recorded. Keep records of inspections current and on file, available for review by EPA, TCEQ, MS4 Operator and Owner.

#### 1.5 SUBMITTALS

- 1.5.1 Submittals of products used in structural and non-structural controls shall be made through established procedures for review and approved by the Owner prior to installation on the site. The Contractor shall make available physical samples and product literature on any material used in

structural or non-structural controls during the course of the project prior to its implementation in the field.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

Specific site control devices are identified in the SWPPP. Where such devices are indicated, their material composition shall comply with this section.

2.1.1 Materials to be used in structural and non-structural site controls shall include, but not be limited to the following:

2.1.1.1 **Area Inlets, Curb Inlets and Silt Fences:** implemented to filter and remove sediment from storm water; they shall be composed of the following materials:

- a. Geotextile fabric – a non-woven, polypropylene, polyethylene, or polyamide fabric with non-raveling edges. It shall be non-biodegradable, inert to most soil chemicals, ultraviolet resistant, unaffected by moisture and other weather conditions, and permeable to water while retaining sediment. Fabric shall be 36 inches wide, with a minimum weight of 4.5 oz./yd.
- b. Wire Backing – a galvanized, 2"x4" welded wire fencing, 12-gauge minimum. Width shall be sufficient to support geotextile fabric 24 inches above adjacent grades. Chain link fences located along the same lines as silt fences may be used to support geotextile fabric. In this circumstance, the geotextile fabric shall be firmly attached to the fence.
- c. Posts for area inlets and silt fences – steel fence posts shall be made of hot rolled steel, galvanized or painted, a minimum of 4 feet long, with a Y-bar or TEE cross-section of sufficient strength to withstand forces implied.

2.1.1.2 **Rock Berms:** shall be composed of the following materials:

- a. Rock – clean open graded rock, with a maximum diameter of 3 inches
- b. Wire Mesh Support – a galvanized, woven wire sheathing having a maximum opening size of 1 inch, and a minimum wire diameter of 20 gauge
- c. Ties – metal hog rings or standard wire/cable ties

2.1.1.3 **Triangular filter dikes:** for use on surfaces or in locations where standard silt fence cannot be implemented, shall be composed of the following:

- a. Geotextile fabric – a non-woven, polypropylene, polyethylene, or polyamide fabric with non-raveling edges, with a minimum width of 60 inches
- b. Dike Structure – 6-gauge, 6" x 6" welded wire mesh, 60 inches wide, folded into a triangular form. Each side shall be 18 inches with an overlap of 6 inches
- c. Ties – metal hog rings or standard wire/cable ties for attachment of wire mesh to itself, and for attachment of geotextile fabric to wire mesh

2.1.1.4 **Stabilized construction exit:** a steel grid that allows the safe passage of vehicles while agitating the tires to loosen and remove the soil buildup. The grid or structures shall conform to the following:

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- a. It shall consist of pipes or tubes spaced such that there is a minimum clear distance between the pipes or tubes of 4½ inches. It shall be elevated above the ground surface a minimum of 8 inches to allow water, debris and soil to drain.
  - b. Minimum diameter of pipe or tube shall be 3 inches.
  - c. It shall be designed to support any and all vehicles entering and leaving the construction site.
  - d. It shall be firmly placed in the ground at the exit.
  - e. It shall be of sufficient length so that the agitation will remove the soil from the tires, or a minimum of 12 feet.
  - f. At the street side approach of the grid there shall be an impervious surface or it shall consist of 3" to 5" diameter angular crushed stone/rock approximately 5 feet in length, minimum, and 8 inches deep, minimum. On the job site side of the grid, there shall be 3" to 5" diameter angular crushed stone/rock 15 feet in length, a minimum of 8 inches deep. The steel grid will be between the street side approach and the job site crushed stone/rock. All crushed stone/rock shall have filter fabric beneath the stone/rock. ~~See diagram on Exhibit F.~~
  - g. Steel grid area shall be used as the tire wash area. When tire wash is in use (rainy or muddy days), the area shall be manned and the tires shall be washed using a high pressure hose/nozzle.
  - h. The area beneath the grid shall be sloped such that debris, soil and water shall be diverted back onto the construction site or to a sediment basin. No water, soil or debris shall leave the construction site. The resulting discharge shall be disposed of properly.
- 2.1.1.5 **Concrete Truck Washout:** shall be used for containment of fluids from concrete truck washout wastes.
- a. Gravel bags, concrete blocks or open graded rock
  - b. 10 mil plastic sheeting
- 2.1.1.6 **Temporary Storage Tanks:** shall be used for temporary storage of fuels on the construction project site
- a. 2 inches of sand on the bottom of the containment area
  - b. 6 mil plastic sheeting
  - c. 2 inches of sand on top of the plastic sheeting
- 2.1.1.7 **Erosion Control Matting:** shall be used on steep slopes, in drainage swales, and in high traffic pedestrian areas of barren soil. It shall include one or more of the following:
- a. Jute Mat – a plain fabric made of jute yarn, woven in a loose and simple manner, with a minimum unit weight of 2.7 pounds per square yard. Width shall be as required for the dimensions of the area to be covered.
  - b. Wood Fiber Mat – a mat composed of wood fibers, which are encased in nylon, cotton or other type of netting
  - c. Synthetic Webbing Mat – a mat manufactured from polyvinyl chloride or polypropylene monofilaments, which are bonded together into a three-dimensional web to facilitate erosion control and/or re-vegetation.
- 2.1.1.8 **Organic mulches:** shall be used for covering bare soil, retaining moisture under existing

vegetation being preserved, and for absorbing the energy of compaction caused by foot or vehicular traffic. Mulch shall be one or more of the following:

- a. Straw – from broken straw bales that are free of weed and grass seed where the grass from the seed is not desired vegetation for the area to be protected.
- b. Wood Chips – from chipped limbs of cleared trees on site, or delivered in chipped form, in bulk quantities of pine, cedar or cypress. Wood chips of all species shall be partially decomposed to alleviate nitrogen depletion of the soil in areas where existing vegetation is to be preserved and protected.
- c. Shredded Mulches – from pine, cypress or cedar, mechanically shredded, and capable of forming an interlocking mat following placement, and after sufficient wetting and drying has taken place naturally.

2.1.1.9 Any other materials indicated in the SWPPP.

### **PART 3 - EXECUTION**

#### **3.1 GENERAL**

3.1.1 The Contractor shall provide a complete installation of all site control devices and measures (BMPs) indicated in the SWPPP book, including the Site Erosion and Sedimentation Control Drawing and as specified herein. These BMPs must be confirmed as fully operational with the Owner before any work that disturbs the site can begin.

As an alternative to the BMPs indicated in the SWPPP book, the Site Erosion and Sediment Control Drawing and as specified herein, the Contractor may propose alternate BMPs that perform the same function as the indicated BMP but may be of a different configuration, material or type for review and approval by Owner's representative. Installation of alternate BMPs shall not proceed until approved by Owner's representative.

3.1.2 The Contractor shall provide inspection and monitoring of controls in place and shall perform all revisions and updating of SWPPP book. An accurate, chronological record of all Contractor inspections, revisions and additional controls shall be kept on file at the project site, for review, with a copy of the SWPPP book.

3.1.3 The Contractor shall submit their NOT to the Owner after all disturbed areas are re-established (stabilized) with vegetative cover following completion of construction. Following acceptance of stabilized areas, all site controls that are no longer necessary shall be removed.

#### **3.2 CONTROL DEVICES**

Execution of specific site control devices is described in the following paragraphs. Refer to the SWPPP for applicable devices, extent and location.

##### **3.2.1 AREA INLET DETAIL**

3.2.1.1 Area inlet fences shall consist of non-woven geotextile fabric attached to wire fabric backing to support the geotextile. The wire fabric should be galvanized 2" x 4" welded wire, 12-gauge minimum. Attach non-woven geotextile fabric to the fence with hog rings or standard cable/wire ties, leaving a toe of fabric at the bottom of the fence of not less than

6 inches. Steel posts as specified shall be driven to a depth of 1 foot minimum and spaced not more than 6 feet

on center. Attach fencing to posts with standard cable/wire ties. Abutting ends of geotextile fabric shall be overlapped a minimum of 12 inches. Wrap grates with non-woven geotextile fabric. ~~See Exhibit A at end of section.~~

3.2.1.2 Maintain silt fence daily as necessary to repair breaches in geotextile fabric. Maintain steel posts as specified in tilted condition. When siltation has occurred, it shall be removed when it has reached a depth of 6 inches. Silt that has been removed shall be disposed of offsite.

3.2.1.2 Remove area inlet when the disturbed areas have been completely stabilized as specified. Minimize site disturbance while removing area inlet protection and posts.

### 3.2.2 CURB INLET PROTECTION

3.2.2.1 Cover curb storm inlet with non-woven geotextile fabric covered wire fabric. Wire fabric to be 2"x4" – W1.4 x W1.4. Extend fabric 2 feet beyond inlet opening at each end and 12 inches in front of opening in the gutter. Remove a strip of filter fabric approximately 12 inches high for the length of the protection to act as overflow. Extend fabric over the top of opening to allow placement of gravel bags. Anchor fabric with 20 lb. gravel bags placed 3 feet on center. ~~See Exhibit B at end of section.~~

3.2.2.2 Maintain inlet protection daily as necessary to repair breaches in geotextile fabric. When siltation has occurred, it shall be removed when it has reached a depth of 2 inches. Silt that has been removed shall be disposed of offsite.

### 3.2.3 ROCK BERM

3.2.3.1 Rock berm shall consist of rip-rap type rock, secured within a wire sheathing as specified, and installed at the toe of slopes, or at the perimeter of developing or disturbed areas. Height of berm shall be a minimum of 18 inches from top of berm to uphill toe of berm. Top width shall be a minimum of 24 inches, with side slopes of 2:1 or flatter. Uphill toe of berm shall be buried a minimum of 4 inches into existing grade. Rock berm shall have a minimum flow-through rate of 60 gallons per minute per square foot of berm face. ~~See Exhibit C at end of section.~~

3.2.3.2 Maintain rock berm in a condition that allows the sediment to be removed, when the depth of sediment has reached 1/3 the height of the berm. Berm shall be reshaped as needed, and silt buildup removed, to maintain specified flow through berm.

3.2.3.3 Rock berm shall be removed when the disturbed areas served have been stabilized as specified.

### 3.2.4 SILT FENCE

~~3.2.4.1~~ Silt fences shall consist of non-woven geotextile fabric, attached to wire fabric backing to support the geotextile. The wire fabric should be galvanized 2" x 4" welded wire, 12-gauge minimum. Attach non-woven geotextile fabric to fence with hog rings or standard cable/wire ties, leaving a toe of fabric at the bottom of the fence of not less than 6 inches. Steel posts as specified shall be driven to a depth of 1 foot minimum and spaced not more

than 6 feet on center. Tilt posts slightly, in an uphill direction for additional strength. Attach fencing to posts with standard cable/wire ties. Dig a 6 inch deep by 6 inch wide trench on the disturbed side of the fence, bury geotextile fabric in trench, backfill and tamp. Abutting ends of geotextile fabric shall be overlapped a minimum of 12 inches. ~~See Exhibit D at end of section.~~

3.2.4.2 Maintain silt fence daily as necessary to repair breaches in geotextile fabric. Maintain steel posts as specified in tilted condition. When siltation has occurred, it shall be removed when it has reached a depth of 6 inches. Silt that has been removed shall be disposed of offsite.

3.2.4.3 Remove silt fence when the disturbed areas protected by silt fence have been completely stabilized as specified. Minimize site disturbance while removing silt fence and posts.

### 3.2.5 TRIANGULAR DIKE

~~3.2.5.1 See Exhibit E for information regarding installation of Triangular Dike~~

### 3.2.6 STABILIZED CONSTRUCTION EXIT

3.2.6.1 A steel grid that allows the safe passage of vehicles while agitating the tires to loosen and remove the soil buildup. The grid or structures shall conform to the following:

- It shall consist of pipes or tubes spaced such that there is a minimum clear distance between the pipes or tubes of 4½ inches. It shall be elevated above the ground surface a minimum of 8 inches to allow water, debris and soil to drain.
- Minimum diameter of pipe or tube shall be 3 inches.
- It shall be designed to support any and all vehicles entering and leaving the construction site.
- It shall be firmly placed in the ground at the exit.
- It shall be of sufficient length so that the agitation will remove the soil from the tires or a minimum of 12 feet.
- At the street side approach of the grid, there shall be an impervious surface or it shall consist of 3" to 5" diameter angular crushed stone/rock approximately 5 feet in length, minimum, and 8 inches deep, minimum. On the job site side of the grid, there shall be 3" to 5" diameter angular crushed stone/rock 15 feet in length, minimum, and 8 inches deep, minimum. The steel grid will be between the street side approach and the job site crushed stone/rock. All crushed stone/rock shall have filter fabric beneath the stone/rock. ~~See diagram on Exhibit F at end of section.~~
- Steel grid area shall be used as the tire wash area. When tire wash is in use (rainy or muddy days) the area shall be manned and the tires shall be washed using a high pressure hose/nozzle.
- The area beneath the grid shall be sloped such that debris, soil and water shall be diverted back on to the construction site or to a sediment basin. No water, soil or debris shall leave the construction site. The resulting discharge shall be disposed of properly.
- The stabilized construction exit shall be properly maintained throughout the entire construction process until removal is approved by Owner's representative.

### 3.2.7 CONCRETE/PAINT/STUCCO/EQUIPMENT WASHOUT (SELF INSTALLED)

- 3.2.7.1 Concrete Truck Washout (self installed) shall be constructed so that it will be able to accommodate the maximum number of anticipated concrete trucks that will be cleaned on any given day at any given time using 7 gallons of water for washout per truck or 50 gallons of water to wash out pump trucks. The area utilized to contain the wash water and concrete solids cleaned from the trucks will be a minimum of 10 feet in width. The containment area will be covered with 10 mil plastic sheeting without any holes or tears and the seams shall be sealed according to manufacturer's recommendations. The gravel bags, concrete blocks or open graded rocks shall line the outside perimeter and shall be double wrapped with the 10 mil plastic sheeting to prevent any potential for runoff from the containment area. ~~See Exhibit G at end of section.~~
- 3.2.7.2 The concrete truck washout containment area shall be maintained in a condition that will not allow concrete buildup within the containment area to exceed 50% of the storage capacity.
- 3.2.7.3 The concrete truck washout area will be removed when it is no longer necessary to wash out concrete trucks on the site.
- 3.2.7.4 Equipment Cleaning: Clean equipment in a manner that does not create any discharge of cleaning agents, paints, oil or solvents to a storm sewer, waterway or onto the ground. Soaps and detergents must never be discharged to the ground. Cement handling equipment must be rinsed in a contained area and there must be no drainage off-site or onto to ground.
- 3.2.7.5 When rinsing painting equipment/tools outside, rinse water must be contained in a bucket or other container for appropriate disposal. Water based or latex paint rinse water may be discharged to the sanitary sewer only with permission/approval from UT EH&S.
- 3.2.7.6 Oil based paint wastes, including solvents and thinners, must not be disposed of in the sanitary sewer; they must be collected and disposed of through the contractor's disposal company in accordance with applicable laws and regulations.
- 3.2.7.7 Discharges from pressure washing using soaps or chemicals must not be allowed to enter a storm sewer. The wastewater will need to be collected with a berm and vacuumed (transported to appropriate disposal site). If the rinse only contains water and dirt (sediment) it may be spread on a grass area or contained/filtered with clean water allowed to enter storm sewer. In some cases it may also be possible to discharge to a sanitary sewer with permission from UT EH&S.
- 3.2.8 TEMPORARY STORAGE TANKS
  - 3.2.8.1 Must be located in a bermed containment area. The berm must be a minimum 3 feet in all directions, and the height of the berm must contain the maximum contents of the largest tank plus 8 inches (approximately 110% of the tank capacity). The containment area is constructed by beginning with a 2-inch sand pad, and then covered with 6-mil plastic or rubber sheeting. The sheeting is then covered with another 2-inch layer of sand. The plastic sheeting is secured to the outer berm.
  - 3.2.8.2 Storage tanks are to be placed no closer than 50 feet from a building or property line.
  - 3.2.8.3 If using tanks with a gravity feed setup, the containment must be of sufficient size to be able to contain the tank if it should fall over.

- 3.2.8.4 There must be a fusible link at the valve that will shut off the flow to the hose in the event of a fire.
- 3.2.8.5 There must be sufficient cover for the tank and the containment area to prevent potential storm water runoff.
- 3.2.8.6 The area within the containment area is to be kept free and clear of spills; if a spill occurs, the sand is to be removed and replace with a fresh layer of sand.
- 3.2.8.7 The storage tank containment area is to be removed from the site once it has been determined that it will no longer be used on the construction site.

**3.2.9 DIVERSION DIKE**

- 3.2.9.1 Diversion dikes shall be formed and shaped using compacted fill, and shall not intercept runoff from more than 10 acres. The dike shall have a minimum top width of 24 inches, and a minimum height of 18 inches. Soil shall have side slopes of 3:1 or flatter, and shall be placed in 8-inch lifts. Compact soil to 95% standard proctor density. Where protected slopes exceed 2 percent, the uphill side of diversion dike shall be stabilized with crushed stone or erosion control matting to a distance of not less than 7 feet from toe of dike. The channel that is formed by the diversion dike must have positive drainage for its entire length to a stabilized outlet, such as a rock berm, sandbag berm, or stone outlet structure. Storm water shall not be allowed to overflow the top of diversion dike at any point other than the stabilized outlet.
- 3.2.9.2 Maintain the diversion dike in a condition that allows the storm water runoff to be diverted away from exposed slopes. Repair any failures at top of dike and remove sediment as necessary behind the dike to allow positive drainage to a stabilized outlet.
- 3.2.9.3 Remove diversion dike when the expose slopes being protected are stabilized with vegetation or other permanent cover.

**3.2.10 INTERCEPTOR SWALE**

- 3.2.10.1 An interceptor swale shall be implemented to prevent on or off- site storm water from entering a disturbed area, or prevent sediment-laden runoff from leaving the site or disturbed area. The interceptor swale shall be excavated as required by the SWPPP drawings, with side slopes of 3:1 or flatter. This shall include all labor and equipment associated with the installation and maintenance of the swale as shown on the construction documents. Constructed swale may be v-shaped or trapezoidal with a flat bottom, depending on the volume of water being channeled. Sediment laden runoff from swale shall be directed to a stabilized outlet or sediment- trapping device. Flow line of swale shall have a continuous fall for its entire length and shall not be allowed to overflow at any other points along its length.
- 3.2.10.2 Maintain interceptor swale in a condition that allows the storm water runoff to be channeled away from disturbed areas. Remove sediment in swale as necessary to maintain positive drainage to a stabilized outlet.
- 3.2.10.3 Fill in or remove swale after the disturbed area/s being protected is completely stabilized as specified.

**3.2.11 EROSION CONTROL MATTING**

- 3.2.11.1 Remove all rocks, debris, dirt clods, roots, and any other obstructions which would prevent the matting from lying in direct contact with the soil. 6 inch by 6 inch anchor trenches shall be dug along the entire perimeter of the installation. Bury matting in trenches, backfill and compact. Fasten matting to the soil using 10-gauge wire staples, 6 inches in length and 1 inch wide. Use a minimum of 1 staple per 4 square feet of matting, and at 12 inches on center along all edges. Install parallel to flow of water and overlap joining strips a minimum of 12 inches.
- 3.2.11.2 Maintain erosion control matting by repairing any bare spots. Missing or loosened matting shall be promptly replaced or re-anchored.
- 3.2.11.3 Remove matting where protection is no longer required. In areas where permanent

vegetation is established along with matting, matting can be left in place permanently.

**3.2.12 MULCHES**

3.2.12.1 Apply specified mulches in areas identified on the SWPPP, to a depth of 3 inches or as otherwise specified on the SWPPP drawings.

**3.2.13 BPM Details**

3.2.13.1 Refer to SWPPP prepared by professional engineer licensed in Texas.

**3.3 INSPECTIONS AND RECORD KEEPING**

3.3.1 Contractor shall inspect all BMPs on 7-day intervals. Coordinate inspections with Owner's representative, who is also required by TPDES to regularly inspect the site. Use standard Owner Inspection forms (see form in Part 4 of this Section) for each inspection. Record all deficiencies of site controls, and take appropriate action to correct any deficiencies recorded. Exception is rock berms located in a streambed. Any rock berm located in a streambed shall be inspected on a daily basis. Keep records of inspections current and on file, available for review by EPA, TCEQ, MS4 Operator Representative and/or Owner's Representative.

3.3.2 Contractor shall keep records of all Contractor inspections on file with SWPPP book at project site, and make available for review by Owner's Representative or EPA, TCEQ or MS4 Operator officials requesting review of SWPPP inspection records. One copy of each inspection report shall be delivered to the Owner's representative.

3.3.3 Contractor shall keep records of all major grading and stabilization activities on file with the SWPPP book at the project site and make available for review by Owner's representative, EPA, TCEQ, or MS4 Operator officials requesting review of the SWPPP.

3.3.4 Contractor shall retain copies of all inspection records and the Major Grading and Stabilization Log along with SWPPP book for 3 years from NOT date per TCEQ regulations.

**3.4 MAINTENANCE**

3.4.1 All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. If through inspections the permittee determines that BMPs are not operating effectively, maintenance must be performed before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run over, removed or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

**3.5 WASTE DISPOSAL**

3.5.1 Contractor is responsible for proper disposal of hazardous materials. Hazardous wastes (such as flammable petroleum products and solvents, thinners) and materials contaminated with hazardous wastes are considered regulated wastes, and should be containerized for transport and disposal by a permitted company in accordance with applicable laws and regulations.

- 3.5.2 Any trash or debris must be contained on site and disposed of in a recycling bin or waste receptacle in accordance with applicable laws and regulations to prevent wind or rain from carrying it off-site into a storm drain. Non-hazardous solid wastes such as general construction debris may be recycled or disposed of in the trash container. Never dispose of liquid wastes of any kind in University dumpsters.

**PART 4 - SAMPLE FORMS**

The following forms or sketches are to be used by the Contractor in the execution of the work in this Section, in compliance with TPDES requirements and the SWPPP.

- SWPPP Project Startup
- Major Grading and Stabilization Log
- SWPPP Posting Sign for Main Construction Entrance for large construction site 5 acres or greater
- Stormwater Construction Site Inspection Report

Contact the Owner's representative for electronic copies of these forms to be used in the execution of work in this section:

- TCEQ TPDES Notice of Intent (NOI)
- TCEQ TPDES CSN (Large CSN or Small CSN)
- TCEQ TPDES Notice of Termination (NOT)
- Shared SWPPP Acceptance Certification form
- SWPPP Inspection form

END OF SECTION

**SWPPP Project Start-up**

Contractors must meet 4 TPDES requirements before soil-disturbing activities can commence on this project. This form provides the Contractor and Owner an acceptance of compliance with initial BMPs and required paperwork for commencement of work on the project site.

The Contractor is to initial items that are certified as complete and then review for concurrence with the Owner's Designated Representative.

1 BMPs applicable to this project have been inspected to ensure correct placement in accordance with the SWPPP and for proper installation according to specifications.

\_\_\_\_\_  
*Initial by Contractor*

\_\_\_\_\_  
*Initial by Owner's Representative*

2 The SWPPP is approved and on site.

\_\_\_\_\_  
*Initial by Contractor*

\_\_\_\_\_  
*Initial by Owner's Representative*

3 The TCEQ NOI, Posting Notice forms (and permits if received), and TCEQ CSNs are complete and posted for all permittees at the main entrance to the project site.

\_\_\_\_\_  
*Initial by Contractor*

\_\_\_\_\_  
*Initial by Owner's Representative*

4 Inspector qualifications and letter of delegation of authority are inserted in the SWPPP.

\_\_\_\_\_  
*Initial by Contractor*

\_\_\_\_\_  
*Initial by Owner's Representative*

Having met the above requirements and in recognition of prior receipt of Notice to Proceed, the Contractor is authorized to commence work on site.

\_\_\_\_\_  
Contractor

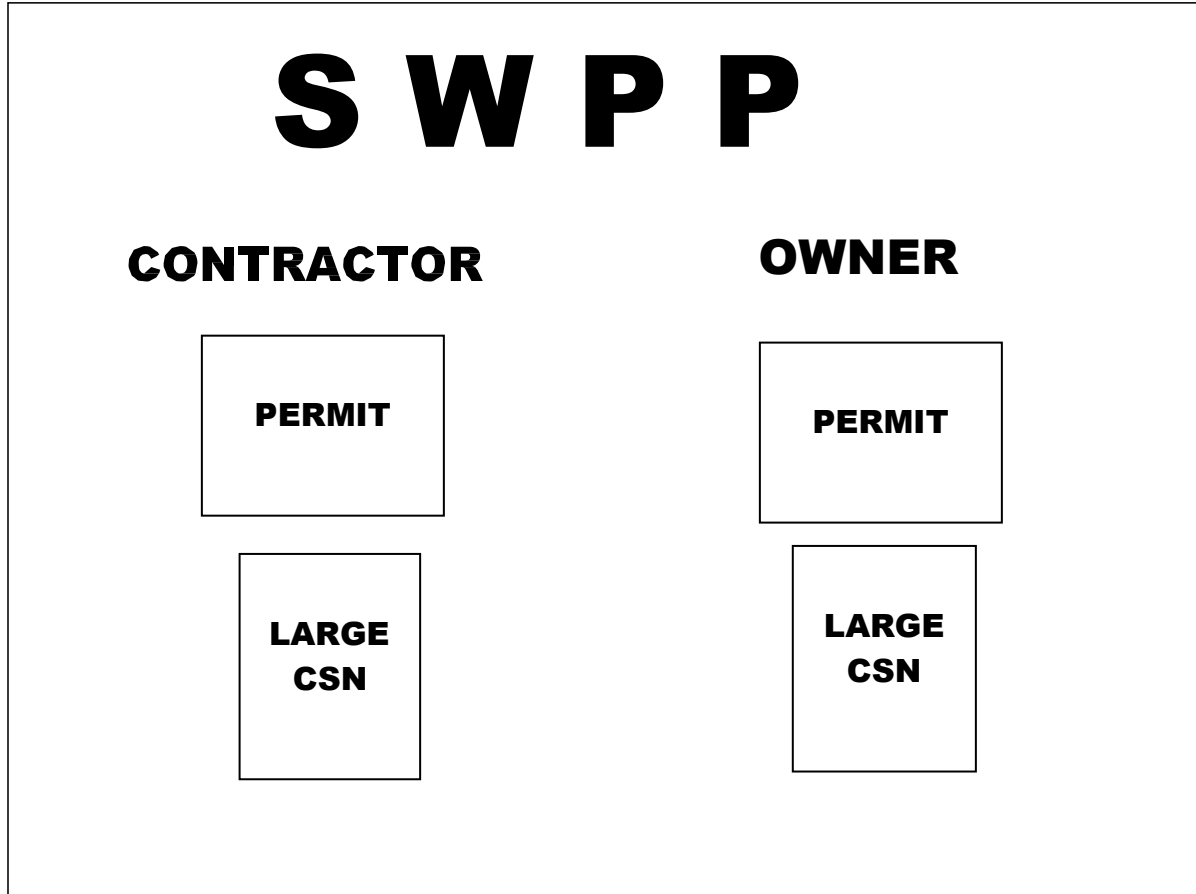
Date: \_\_\_\_\_ - \_\_\_\_\_

\_\_\_\_\_  
Owner's Representative

Date: \_\_\_\_\_



Sign for Large Construction Site



**MINIMUM SIGN SPECIFICATIONS: 5 Acre or Greater Sites**

**SIGN** - Exterior grade  $\frac{3}{4}$ " plywood, cut 4' x 4', with red painted letters, background painted white – DISPLAY ON CONSTRUCTION FENCE AT MAIN ENTRANCE TO PROJECT SITE.

**S W P P P** - 10-inch painted letters, 3 inches from top of sign, centered

**CONTRACTOR OWNER** - 3 inch painted letters, 4 inches below SWPPP letters, centered on each half of sign

**PERMIT, CSN** - 8-1/2 X 11 TCEQ forms, laminated beyond edges of documents, stapled to plywood.

**SECTION 02 40 00**

**REMOVING EXISTING PAVEMENTS AND STRUCTURES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Removing concrete paving, asphaltic concrete pavement, and base courses.
- B. Removing concrete curbs, concrete curbs and gutters, sidewalks and driveways.
- C. Removing pipe culverts and sewers.
- D. Removing existing inlets and manholes.
- E. Removing miscellaneous structures of concrete or masonry and all debris.

**1.02 REGULATORY REQUIREMENTS**

- A. Conform to applicable codes for disposal of debris.
- B. Coordinate removal work with utility companies.

**PART 2 PRODUCTS - Not Used**

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Obtain advance approval from Engineer for dimensions and limits of removal work.
- B. Identify known utilities below grade. Stake and flag locations.

**3.02 PROTECTION**

- A. Protect the following from damage or displacement:
  - 1. Adjacent public and private property.
  - 2. All trees, plants, and other landscape features unless designated to be removed.
  - 3. All utilities unless designated to be removed.
  - 4. All pavement and utility structures unless designated to be removed.
  - 5. Bench marks, monuments, and existing structures designated to remain.

**3.03 REMOVAL**

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- A. Remove pavements and structures by methods that will not damage underground utilities. Do not use a drop hammer near existing underground utilities.
- B. Minimize amount of earth loaded during removal operations.
- C. Where existing pavement is to remain, make straight saw cuts in existing pavement to provide clean breaks prior to removal. Do not break concrete pavement or base with drop hammer unless concrete or base has been saw cut to a minimum depth of 2 inches.
- D. Where street and driveway saw cut locations coincide or fall within 3 feet of existing construction or expansion joints, break out to existing joint.
- E. Remove sidewalks and curbs to nearest existing dummy, expansion, or construction joint.
- F. Where existing end of pipe culvert or end of sewer is to remain, install an 8-inch-thick masonry plug in pipe end prior to backfill.

3.04 BACKFILL

- A. Backfill of removal areas shall be in accordance with requirements of Section 31 23 16.16 - Excavation and Backfill for Structures.

3.05 DISPOSAL

- A. Inlet frames, grates, and plates; and manhole frames and covers, may remain Owner's property. Disposal shall be in accordance with local and state laws and the responsibility of the Contractor.
- B. Remove from the site debris resulting from work under this section in accordance with local and state laws and the responsibility of the Contractor.

PART 4 PAYMENT

4.01 MEASUREMENT & PAYMENT

Unless prescribed elsewhere in the Contract documents, Unit Prices as follows:

Payment of the quantities for removing existing pavements and structures measured as specified will be at the contract unit price per square yard of the thickness specified.

END OF SECTION

**SECTION 02 41 00**

**DEMOLITION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Removing concrete paving, asphaltic concrete pavement, and base courses.
- B. Removing concrete curbs, concrete curbs and gutters, sidewalks and driveways.
- C. Removing pipe culverts and sewers.
- D. Removing existing inlets and manholes.
- E. Removing miscellaneous structures of concrete or masonry.

**1.02 MEASUREMENT AND PAYMENT**

- A. Payment are based on a lump sum basis

**1.03 REGULATORY REQUIREMENTS**

- A. Conform to applicable codes for disposal of debris.
- B. Coordinate removal work with utility companies.

**PART 2 PRODUCTS - Not Used**

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Obtain advance approval from Public Works Director for dimensions and limits of removal work.
- B. Identify known utilities below grade. Stake and flag locations.

**3.02 PROTECTION**

- A. Protect the following from damage or displacement:
  - 1. Adjacent public and private property.
  - 2. Trees, plants, and other landscape features designated to remain.
  - 3. Utilities designated to remain.
  - 4. Pavement and utility structures designated to remain.
  - 5. Bench marks, monuments, and existing structures designated to remain.

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**3.03 REMOVALS**

- A. Remove pavements and structures by methods that will not damage underground utilities. Do not use a drop hammer near existing underground utilities.
- B. Minimize amount of earth loaded during removal operations.
- C. Where existing pavement is to remain, make straight saw cuts in existing pavement to provide clean breaks prior to removal. Do not break concrete pavement or base with drop hammer unless concrete or base has been saw cut to a minimum depth of 2 inches.
- D. Where street and driveway saw cut locations coincide or fall within 3 feet of existing construction or expansion joints, break out to existing joint.
- E. Remove sidewalks and curbs to nearest existing dummy, expansion, or construction joint.
- F. Where existing end of pipe culvert or end of sewer is to remain, install an 8-inch-thick masonry plug in pipe end prior to backfill.

**3.04 BACKFILL**

- A. Backfill of removal areas shall be in accordance with requirements of Section 31 23 33 - Excavation and Backfill for Structures.

**3.05 DISPOSAL**

- A. Inlet frames, grates and plates; and manhole frames and covers, may remain owner's property. Disposal shall be in accordance with local and state laws and the responsibility of the Contractor.
- B. Remove from the site debris resulting from work under this section in accordance with local and state laws and the responsibility of the Contractor.

END OF SECTION

**SECTION 03 30 00**

**CAST-IN-PLACE CONCRETE  
CONCRETE FOR UTILITY CONSTRUCTION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Cast-in-place concrete work for utility construction or rehabilitation, such as slabs on grade, small vaults, site-cast bases for precast units, and in-place liners for manhole rehabilitation.

**1.02 MEASUREMENT AND PAYMENT**

- A. Unit Prices.
  - 1. No payment will be made for concrete for utility construction under this Section. Include cost in applicable utility structure.

**1.03 REFERENCES**

- A. ACI 117 - Standard Tolerances for Concrete Construction and Materials.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
- C. ACI 302.1R - Guide for Concrete Floor and Slab Construction.
- D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
- E. ACI 308 - Standard Practice for Curing Concrete.
- F. ACI 309R - Guide for Consolidation of Concrete.
- G. ACI 311 - Batch Plant Inspection and Field Testing of Ready Mixed Concrete.
- H. ACI 315 - Manual of Standard Practice for Detailing Reinforced Concrete Structures.
- I. ACI 318 - Building Code Requirements for Reinforced Concrete.
- J. ACI 544 - Guide for Specifying, Mixing, Placing, and Finishing Steel Fiber Reinforced Concrete.
- K. ASTM A 82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
- L. ASTM A 185 - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
- M. ASTM A 615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- N. ASTM A 767 - Standard Specifications for Zinc-coated (Galvanized) Bars for Concrete Reinforcement.

- O. ASTM A 775 - Standard Specification for Epoxy-Coated Reinforcing Steel Bars.
- P. ASTM A 820 - Steel Fibers for Fiber Reinforced Concrete.
- Q. ASTM A 884 - Specification for Epoxy-coated Steel Wire and Welded Wire Fabric for Reinforcement.
- R. ASTM C 31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
- S. ASTM C 33 - Standard Specification for Concrete Aggregates.
- T. ASTM C 39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- U. ASTM C 42 - Standard Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
- V. ASTM C 94 - Standard Specification for Ready-Mixed Concrete.
- W. ASTM C 138 - Standard Test Method for Unit Weight Yield and Air Content (Gravimetric) of Concrete.
- X. ASTM C 143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
- Y. ASTM C 150 - Standard Specification for Portland Cement.
- Z. ASTM C 172 - Standard Practice for Sampling Freshly Mixed Concrete.
- AA. ASTM C 173 - Standard Test Method for Air Content of Freshly Mixed Concrete by Volumetric Method.
- AB. ASTM C 231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
- AC. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete.
- AD. ASTM C 309 - Standard Specifications for Liquid Membrane-Forming Compounds for Curing Concrete.
- AE. ASTM C 494 - Standard Specification for Chemical Admixtures for Concrete.
- AF. ASTM C 595 - Standard Specification for Blended Hydraulic Cements.
- AG. ASTM C 685 - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
- AH. ASTM C 1017 - Chemical Admixtures for Use in Producing Flowing Concrete.
- AI. ASTM C 1064 - Standard Test Method for Temperature of Freshly Mixed Portland Cement Concrete.
- AJ. ASTM C 1077 - Standard Practice for Laboratory Testing of Concrete and Concrete Aggregate for Use in Construction and Criteria for Laboratory Evaluation.
- AK. ASTM D 638 - Test Method for Tensile Properties of Plastics.
- AL. ASTM D 746 - Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.

- AM. ASTM D 747 - Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam.
- AN. CRSI MSP-1 - Manual of Standard Practice.
- AO. CRSI - Placing Reinforcing Bars.
- AP. Federal Specification SS-S-210A - Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints
- AQ. NRMCA - Concrete Plant Standards.

#### 1.04 SUBMITTALS

- A. Conform to Section 01 33 00 - Submittal Procedures.
- B. Submit proposed mix design and test data for each type and strength of concrete in the Work.
- C. Submit laboratory reports prepared by an independent testing laboratory stating that materials used comply with requirements of this Section.
- D. Submit manufacturer's mill certificates for reinforcing steel. Provide specimens for testing when required by the Engineer.
- E. Submit certification from concrete supplier that materials and equipment used to produce and deliver concrete comply with this Specification.
- F. When required on Drawings, submit shop drawings showing reinforcement type, quantity, size, length, location, spacing, bending, splicing, support, fabrication details, and other pertinent information.
- G. For waterstops, submit product information sufficient to indicate compliance with this Section, including manufacturer's descriptive literature and specifications.

#### 1.06 HANDLING AND STORAGE

- A. Cement: Store cement off of the ground in a well-ventilated, weatherproof building.
- B. Aggregate: Prevent mixture of foreign materials with aggregate and preserve gradation of aggregate.
- C. Reinforcing Steel: Store reinforcing steel to protect it from mechanical injury and formation of rust. Protect epoxy-coated steel from damage to the coating.

### PART 2 PRODUCTS

#### 2.01 CONCRETE MATERIALS

- A. Cementitious Material:
  - 1. Portland Cement: ASTM C 150, Type II, unless the use of Type III is authorized by the Engineer; or ASTM C 595, Type IP. For concrete in contact with sewage use Type II cement.
  - 2. When aggregates are potentially reactive with alkalis in cement, use cement not exceeding 0.6 percent alkali content in the form of  $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ .

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- B. Water: Clean, free from harmful amounts of oils, acids, alkalis, or other deleterious substances, and meeting requirements of ASTM C 94.
- C. Aggregate:
  - 1. Coarse Aggregate: ASTM C 33. Unless otherwise indicated, use the following ASTM standard sizes: No. 357 or No. 467; No. 57 or No. 67, No. 7. Maximum size: Not larger than 1/5 of the narrowest dimension between sides of forms, nor larger than 3/4 of minimum clear spacing between reinforcing bars.
  - 2. Fine Aggregate: ASTM C 33.
  - 3. Determine the potential reactivity of fine and coarse aggregate in accordance with the Appendix to ASTM C 33.
- D. Air Entraining Admixtures: ASTM C 260.
- E. Chemical Admixtures:
  - 1. Water Reducers: ASTM C 494, Type A.
  - 2. Water Reducing Retarders: ASTM 494, Type D.
  - 3. High Range Water Reducers (Superplasticizers): ASTM C 494, Types F and G.
- F. Prohibited Admixtures: Admixtures containing calcium chloride, thiocyanate, or materials that contribute free chloride ions in excess of 0.1 percent by weight of cement.
- G. Reinforcing Steel:
  - 1. Use new billet steel bars conforming to ASTM A 615, ASTM A 767, or ASTM A 775, grade 40 or grade 60, as shown on Drawings. Use deformed bars except where smooth bars are specified. When placed in work, keep steel free of dirt, scale, loose or flaky rust, paint, oil or other harmful materials.
  - 2. Where shown, use welded wire fabric with wire conforming to ASTM A 185 or ASTM A 884. Supply the gauge and spacing shown, with longitudinal and transverse wires electrically welded together at points of intersection with welds strong enough not to be broken during handling or placing.
  - 3. Wire: ASTM A 82. Use 16-1/2 gauge minimum for tie wire, unless otherwise indicated.
- H. Fiber:
  - 1. Fibrillated Polypropylene Fiber:
    - a. Addition Rate: 1.5 pounds of fiber per cubic yard of concrete.
    - b. Physical Properties:
      - 1) Material: Polypropylene.
      - 2) Length: 1/2 inch or graded
      - 3) Specific Gravity: 0.91.

- c. Acceptable Manufacturer: W. R. Grace Company, Fibermesh, or approved equal.
2. Steel Fiber: Comply with applicable provisions of ACI 544 and ASTM A 820.
- a. Ratio: 50 to 200 pounds of fiber per cubic yard of concrete.
  - b. Physical Properties
    - 1) Material: Steel.
    - 2) Aspect Ratio (for fiber lengths of 0.5 to 2.5 inch, length divided by diameter or equivalent diameter): 30:1 to 100:1.
    - 3) Specific Gravity: 7.8.
    - 4) Tensile Strength: 40-400 ksi.
    - 5) Young's Modulus: 29,000 ksi.
    - 6) Minimum Average Tensile Strength: 50,000 psi.
    - 7) Bending Requirements: Withstand bending around 0.125-inch diameter mandrel to an angle of 90 degrees, at temperatures not less than 60 degrees F, without breaking.
- I. Curing Compounds: Type 2 white-pigmented liquid membrane-forming compounds conforming to ASTM C 309.

## 2.02 FORMWORK MATERIALS

- A. Lumber and Plywood: Seasoned and of good quality, free from loose or unsound knots, knot holes, twists, shakes, decay and other imperfections which would affect strength or impair the finished surface of concrete. Use S4S lumber for facing or sheathing. Forms for bottoms of caps: At least 2-inch (nominal) lumber, or 3/4-inch form plywood backed adequately to prevent misalignment. For general use, provide lumber of 1-inch nominal thickness or form plywood of approved thickness.
- B. Formwork for Exposed Concrete Indicated to Receive Rubbed Finish: Form or form-lining surfaces free of irregularities; plywood of 1/4-inch minimum thickness, preferably oiled at the mill.
- C. Chamfer Strips and Similar Moldings: Redwood, cypress, or pine that will not split when nailed and which can be maintained to true line. Use mill-cut molding dressed on all faces.
- D. Form Ties: Metal or fiberglass of approved type with tie holes not larger than 7/8 inch in diameter. Do not use wire ties or snap ties.
- E. Metal Forms: Clean and in good condition, free from dents and rust, grease, or other foreign materials that tend to disfigure or discolor concrete in a gauge and condition capable of supporting concrete and construction loads without significant distortion. Countersink bolt and rivet heads on facing sides. Use only metal forms which present a smooth surface and which line up properly.

## 2.03 PRODUCTION METHODS

- A. Use either ready-mixed concrete conforming to requirements of ASTM C 94, or concrete produced by volumetric batching and continuous mixing in accordance with ASTM C 685.

## 2.04 MEASUREMENT OF MATERIALS

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- A. Measure dry materials by weight, except volumetric proportioning may be used when concrete is batched and mixed in accordance with ASTM C 685.
- B. Measure water and liquid admixtures by volume.

2.05 DESIGN MIX

- A. Use design mixes prepared by a certified testing laboratory in accordance with ASTM C 1077 and conforming to requirements of this section.
- B. Proportion concrete materials based on ACI 211.1 to comply with durability and strength requirements of ACI 318, Chapters 4 and 5, and this specification. Prepare mix design of Class A concrete so minimum cementitious content is 564 pounds per cubic yard. Submit concrete mix designs to the Engineer for review.
- C. Proportioning on the basis of field experience or trial mixtures in accordance with requirements at Section 5.3 of ACI 318 may be used, if approved by the Engineer.
- D. Classification:

CLASS	TYPE	MINIMUM COMPRESSIVE STRENGTH (LBS/SQ. IN.)		MAXIMUM W/C RATIO	AIR CONTENT (PERCENT)	CONSISTENCY RANGE IN SLUMP (INCHES)
		7-DAY	28-DAY			
A	Structural	3200	4000	0.45	4± 1	2 to 4*
B	Pipe Block Fill, Thrust Block	2400	3000	----	4± 1	5 to 7

\*When ASTM C 494, Type F or Type G admixture is used to increase workability, this range may be 6 to 9.

- E. Add steel or polypropylene fibers only when called for on the Drawings or in another section of these Specifications.
- F. Determine air content in accordance with ASTM C 138, ASTM C 173 or ASTM C 231.
- G. Use of Concrete Classes: Use classes of concrete as indicated on the Drawings and other Specifications. Use Class B for non-reinforced concrete used for plugging pipes, seal slabs, thrust blocks, trench dams, and concrete fill unless indicated otherwise. Use Class A for all other applications.

2.06 PVC WATERSTOPS

- A. Extrude from virgin polyvinyl chloride elastomer. Use no reclaimed or scrap material. Submit waterstop manufacturer's current test reports and manufacturer's written certification that the material furnished meets or exceeds Corps of Engineers Specification CRD-C572 and other specified requirements.
- B. Flat Strip and Center-Bulb Waterstops:

1. Thickness: not less than 3/8 inch
2. Acceptable Manufacturers:
  - a. Kirkhill Rubber Co., Brea, California
  - b. Water Seals, Inc., Chicago, Illinois
  - c. Progress Unlimited, Inc., New York, New York
  - d. Greenstreak Plastic Products Co., St. Louis, Missouri
  - e. Approved equal.

## 2.07 RESILIENT WATERSTOP

- A. Resilient Waterstop: Where shown on the Drawings; either a bentonite- or adhesive-type material.
- B. Bentonite Waterstop:
  1. Material: 75 percent bentonite, mixed with butyl rubber-hydrocarbon containing less than 1.0 percent volatile matter, and free of asbestos fibers or asphaltics.
  2. Manufacturer's rated temperature ranges: For application, 5 to 125 degrees F; in service, -40 to 212 degrees F.
  3. Cross-sectional dimensions, unexpanded waterstop: 1 inch by 3/4 inch.
  4. Provide with adhesive backing capable of producing excellent adhesion to concrete surfaces.
- C. Adhesive Waterstop:
  1. Preformed plastic adhesive waterstop at least 2 inches in diameter.
  2. Meets or exceeds requirements of Federal Specification SS-S-210A.
  3. Supplied wrapped completely by a 2-part protective paper.
  4. Submit independent laboratory tests verifying that the material seals joints in concrete against leakage when subjected to a minimum of 30 psi water pressure for at least 72 hours.
  5. Provide primer, to be used on hardened concrete surfaces, from the same manufacturer who supplies the waterstop material.
  6. Acceptable Manufacturer: Synko-Flex Preformed Plastic Adhesive Waterstop, Synko-Flex Products, Inc.; or approved equal.

## PART 3 EXECUTION

### 3.01 FORMS AND SHORING

- A. Provide mortar-tight forms sufficient in strength to prevent bulging between supports. Set and maintain forms to lines designated such that finished dimensions of structures are within the tolerances specified in ACI 117. Construct forms to permit removal without damage to concrete.

Forms may be given slight draft to permit ease of removal. Provide adequate cleanout openings. Before placing concrete, remove extraneous matter from within forms.

- B. Install rigid shoring having no excessive settlement or deformation. Use sound timber in shoring centering. Shim to adjust and tighten shoring with hardwood timber wedges.
- C. Design Loads for Horizontal Surfaces of Forms and Shoring: Minimum fluid pressure, 175 pounds per cubic foot; live load, 50 pounds per square foot. Maximum unit stresses: 125 percent of allowable stresses used for form materials and for design of support structures.
- D. Back formwork with a sufficient number of studs and wales to prevent deflection.
- E. Re-oil or lacquer the liner on the job before using. Facing may be constructed of 3/4-inch plywood made with waterproof adhesive backed by adequate studs and wales. In such cases, form lining will not be required.
- F. Unless otherwise indicated, form outside corners and edges with triangular 3/4-inch chamfer strips (measured on sides).
- G. Remove metal form ties to depth of at least 3/4 inch from surface of concrete. Do not burn off ties. Do not use pipe spreaders. Remove spreaders which are separate from forms as concrete is being placed.
- H. Treat facing of forms with approved form coating before concrete is placed. When directed by Engineer, treat both sides of face forms with coating. Apply coating before reinforcement is placed. Immediately before the concrete is placed, wet surface of forms which will come in contact with concrete.

### 3.02 PLACING REINFORCEMENT

- A. Place reinforcing steel accurately in accordance with approved Drawings. Secure steel adequately in position in forms to prevent misalignment. Maintain reinforcing steel in place using approved concrete and hot-dip galvanized metal chairs and spacers. Place reinforcing steel in accordance with CRSI Publication "Placing Reinforcing Bars." Request inspection of reinforcing steel by the inspector and obtain acceptance before concrete is placed.
- B. Minimum spacing center-to-center of parallel bars: 2-1/2 times nominal bar diameter. Minimum cover measured from surface of concrete to face of reinforcing bar unless shown otherwise on the Drawings: 3 inches for surfaces cast against soil or subgrade, 2 inches for other surfaces.
- C. Detail bars in accordance with ACI 315. Fabricate reinforcing steel in accordance with CRSI Publication MSP-1, "Manual of Standard Practice." Bend reinforcing steel to required shape while steel is cold. Excessive irregularities in bending will be cause for rejection.
- D. Do not splice bars without written approval of the Engineer. Approved bar bending schedules or placing drawings constitute written approval. Splice and development length of bars shall conform to ACI 318, Chapters 7 and 12, and as shown on Drawings. Stagger splices or locate at points of low tensile stress.

### 3.03 EMBEDDED ITEMS

- A. Install conduit and piping as shown on Drawings. Accurately locate and securely fasten conduit, piping, and other embedded items in forms.

- B. Install waterstops as specified in other sections and according to manufacturer's instructions. Securely position waterstops at joints as indicated on Drawings. Protect waterstops from damage or displacement during concrete placing operations.

3.04 BATCHING, MIXING AND DELIVERY OF CONCRETE

- A. Measure, batch, mix, and deliver ready-mixed concrete in accordance with ASTM C 94, Sections 8 through 11. Produce ready-mixed concrete using an automatic batching system as described in NRMCA Concrete Plant Standards, Part 2 - Plant Control Systems.
- B. Measure, mix and deliver concrete produced by volumetric batching and continuous mixing in accordance with ASTM C 685, Sections 6 through 8.
- C. Maintain concrete workability without segregation of material and excessive bleeding. Obtain approval of the Engineer before adjustment and change of mix proportions.
- D. Ready-mixed concrete delivered to the site shall be accompanied by batch tickets providing the information required by ASTM C 94, Section 16. Concrete produced by continuous mixing shall be accompanied by batch tickets providing the information required by ASTM C 685, Section 14.
- E. When adverse weather conditions affect quality of concrete, postpone concrete placement. Do not mix concrete when air temperature is at or below 40 degrees F and falling. Concrete may be mixed when temperature is 35 degrees F and rising. Take temperature readings in the shade, away from artificial heat. Protect concrete from temperatures below 32 degrees F until the concrete has cured for a minimum of 3 days at 70 degrees F or 5 days at 50 degrees F.
- F. Clean, maintain and operate equipment so that it thoroughly mixes material as required.
- G. Hand-mix only when approved by the Engineer.

3.05 PLACING CONCRETE

- A. Give sufficient advance notice to the Engineer (at least 24 hours prior to commencement of operations) to permit inspection of forms, reinforcing steel, embedded items and other preparations for placing concrete. Place no concrete prior to the Engineer's approval.
- B. Schedule concrete placing to permit completion of finishing operations in daylight hours. However, if necessary to continue after daylight hours, light the site as required. If rainfall occurs after placing operations are started, provide covering to protect the work.
- C. Use troughs, pipes and chutes lined with approved metal or synthetic material in placing concrete so that concrete ingredients are not separated. Keep chutes, troughs and pipes clean and free from coatings of hardened concrete. Allow no aluminum material to be in contact with concrete.
- D. Limit free fall of concrete to 4 feet. Do not deposit large quantities of concrete at one location so that running or working concrete along forms is required. Do not jar forms after concrete has taken an initial set; do not place any strain on projecting reinforcement or anchor bolts.
- E. Use tremies for placing concrete in walls and similar narrow or restricted locations. Use tremies made in sections, or provide in several lengths, so that outlet may be adjusted to proper height during placing operations.

- F. Place concrete in continuous horizontal layers approximately 12 inches thick. Place each layer while layer below is still plastic.
- G. Compact each layer of concrete with concrete spading implements and mechanical vibrators of approved type and adequate number for the size of placement. When immersion vibrators cannot be used, use form vibrators. Apply vibrators to concrete immediately after depositing. Move the vibrator vertically through the layer of concrete just placed and several inches into plastic layer below. Do not penetrate or disturb layers previously placed which have partially set. Do not use vibrators to aid lateral flow concrete. Closely supervise consolidation to ensure uniform insertion and duration of immersion.
- H. Handling and Placing Concrete: Conform to ACI 302.1R, ACI 304R and ACI 309R.

### 3.06 WATERSTOPS

- A. Embed waterstops in concrete across joints as shown. Waterstops shall be continuous for the extent of the joint; make splices necessary to provide such continuity in accordance with manufacturer's instructions. Support and protect waterstops during construction operations; repair or replace waterstops damaged during construction.
- B. Install waterstops in concrete on one side of joints, leaving other side exposed until the next pour. When a waterstop will remain exposed for 2 days or more, shade and protect the exposed waterstop from direct rays of the sun during the entire exposure and until the exposed portion of the waterstop is embedded in concrete.
- C. Splicing PVC Waterstops:
  - 1. Splice waterstops by heat-sealing adjacent waterstop sections in accordance with the manufacturer's printed instructions.
  - 2. Butt end-to-end joints of two identical waterstop sections may be made in the forms during placement of waterstop material.
  - 3. Prior to placement in formwork, prefabricate waterstop joints involving more than two ends to be joined together, an angle cut, an alignment change, or the joining of two dissimilar waterstop sections, allowing not less than 24-inch long strips of waterstop material beyond the joint. Upon inspection and approval by the Engineer, install prefabricated waterstop joint assemblies in formwork, and butt-weld ends of the 24-inch strips to the straight-run portions of waterstop in the forms.
- D. Setting PVC Waterstops:
  - 1. Correctly position waterstops during installation. Support and anchor waterstops during progress of the work to ensure proper embedment in concrete and to prevent folding over of the waterstop by concrete placement. Locate symmetrical halves of waterstops equally between concrete pours at joints, with center axis coincident with joint openings. Thoroughly work concrete in joint vicinity for maximum density and imperviousness.
  - 2. Where a waterstop in a vertical wall joint does not connect with any other waterstop, and is not intended to be connected to a waterstop in a future concrete placement, terminate the waterstop 6 inches below the top of the wall.

- E. Replacement of Defective Field Joints: Replace waterstop field joints showing evidence of misalignment, offset, porosity, cracks, bubbles, inadequate bond or other defects with products and joints complying to the Specifications.
- F. Resilient Waterstop:
1. Install resilient waterstop in accordance with manufacturer's instructions and recommendations.
  2. When requested by the Engineer, provide technical assistance by manufacturer's representative in the field at no additional cost to the Owner.
  3. Use resilient waterstop only where complete confinement by concrete is provided; do not use in expansion or contraction joints.
  4. Where resilient waterstop is used in combination with PVC waterstop, lap resilient waterstop over PVC waterstop a minimum of 6 inches and place in contact with the PVC waterstop. Where crossing PVC at right angles, melt PVC ribs to form a smooth joining surface.
  5. At the free top of walls without connecting slabs, stop the resilient waterstop and grooves (where used) 6 inches from the top in vertical wall joints.
  6. Bentonite Waterstop:
    - a. Locate bentonite waterstop as near as possible to the center of the joint and extend continuous around the entire joint. Minimum distance from edge of waterstop to face of member: 5 inches.
    - b. Where thickness of concrete member to be placed on bentonite waterstop is less than 12 inches, place waterstop in grooves at least 3/4 inch deep and 1-1/4 inches wide formed or ground into concrete. Minimum distance from edge of waterstop placed in groove to face of member: 2.5 inches.
    - c. Do not place bentonite waterstop when waterstop material temperature is below 40 degrees F. Waterstop material may be warmed so that it remains above 40 degrees F during placement but means used to warm it shall in no way harm the material or its properties. Do not install waterstop where air temperature falls outside manufacturer's recommended range.
    - d. Place bentonite waterstop only on smooth and uniform surfaces; grind concrete smooth if necessary to produce satisfactory substrate, or bond waterstop to irregular surfaces using an epoxy grout which completely fills voids and irregularities beneath the waterstop material. Prior to installation, wire brush the concrete surface to remove laitance and other substances that may interfere with bonding of epoxy.
    - e. In addition to the adhesive backing provided with the waterstop, secure bentonite waterstop in place with concrete nails and washers at 12-inch maximum spacing.

7. Adhesive Waterstop:

- a. With a wire brush thoroughly clean the concrete surface on which the waterstop is to be placed and then coat with primer.
- b. If the surface is too rough to allow the waterstop to form a complete contact, grind to form an adequately smooth surface.
- c. Install the waterstop with the top protective paper left in place. Overlap joints between strips a minimum of 1 inch and cover back over with protective paper.
- d. Do not remove protective paper until just before final formwork completion. Concrete shall be placed immediately. The time that the waterstop material is uncovered prior to concrete placement shall be minimized and shall not exceed 24 hours.

3.07 CONSTRUCTION JOINTS

A. Definitions:

1. Construction joint: Contact surface between plastic (fresh) concrete and concrete that has attained initial set.
2. Monolithic: Manner of concrete placement to reduce or eliminate construction joints; joints other than those indicated on Drawings will not be permitted without written approval of Engineer. Where so approved, make additional construction joints with details equivalent to those indicated for joints in similar locations.
3. Preparation for Construction Joints: Roughen surface of concrete previously placed, leaving some aggregate particles exposed. Remove laitance and loose materials by sandblasting or high-pressure water blasting. Keep surface wet for several hours prior to placing of plastic concrete.

3.08 CURING

- A. Comply with ACI 308. Cure by preventing loss of moisture, rapid temperature change and mechanical injury for a period of 7 curing days when Type II or IP cement has been used and for 3 curing days when Type III cement has been used. Start curing as soon as free water has disappeared from the concrete surface after placing and finishing. A curing day is any calendar day in which the temperature is above 50 degrees F for at least 19 hours. Colder days may be counted if air temperature adjacent to concrete is maintained above 50 degrees F. In continued cold weather, when artificial heat is not provided, removal of forms and shoring may be permitted at the end of calendar days equal to twice the required number of curing days. However, leave soffit forms and shores in place until concrete has reached the specified 28-day strength, unless directed otherwise by the Engineer.
- B. Cure formed surfaces not requiring rubbed-finished surface by leaving forms in place for the full curing period. Keep wood forms wet during the curing period. Add water as needed for other types of forms. Or, at Contractor's option, forms may be removed after 2 days and curing compound applied.
- C. Rubbed Finish:
  1. At formed surfaces requiring rubbed finish, remove forms as soon as practicable without damaging the surface.

2. After rubbed-finish operations are complete, continue curing formed surfaces by using either approved curing/sealing compounds or moist cotton mats until normal curing period is complete.

D. Unformed Surfaces: Cure by membrane curing compound method.

1. After concrete has received a final finish and surplus water sheen has disappeared, immediately seal surface with a uniform coating of approved curing compound, applied at the rate of coverage recommended by manufacturer or as directed by the Engineer. Do not apply less than 1 gallon per 180 square feet of area. Provide satisfactory means to properly control and check rate of application of the compound.
2. Thoroughly agitate the compound during use and apply by means of approved mechanical power pressure sprayers equipped with atomizing nozzles. For application on small miscellaneous items, hand-powered spray equipment may be used. Prevent loss of compound between nozzle and concrete surface during spraying operations.
3. Do not apply compound to a dry surface. If concrete surface has become dry, thoroughly moisten surface immediately prior to application. At locations where coating shows discontinuities, pinholes or other defects, or if rain falls on a newly coated surface before film has dried sufficiently to resist damage, apply an additional coat of compound at the specified rate of coverage.

3.09 REMOVAL OF FORMS AND SHORING

- A. Remove forms from surfaces requiring rubbing only as rapidly as rubbing operation progresses. Remove forms from vertical surfaces not requiring rubbed-finish when concrete has aged for the required number of curing days. When curing compound is used, do not remove forms before 2 days after concrete placement.
- B. Leave soffit forms and shores in place until concrete has reached the specified 28-day strength, unless directed otherwise by the Engineer.

3.10 DEFECTIVE WORK

- A. Immediately repair any defective work discovered after forms have been removed. If concrete surface is bulged, uneven, or shows excess honeycombing or form marks which cannot be repaired satisfactorily through patching, remove and replace the entire section.

3.11 FINISHING

- A. Patch honeycomb, minor defects and form tie holes in concrete surfaces with cement mortar mixed one part cement to two parts fine aggregate. Repair defects by cutting out unsatisfactory material and replacing with new concrete, securely keyed and bonded to existing concrete. Finish to make junctures between patches and existing concrete as inconspicuous as possible. Use a stiff mixture and thoroughly tamp into place. After each patch has stiffened sufficiently to allow for greatest portion of shrinkage, strike off mortar flush with the surface.
- B. Apply a rubbed finish to exposed surfaces of formed concrete structures as noted on Drawings. After pointing has set sufficiently, wet the surface with a brush and perform first surface rubbing with No. 16 carborundum stone, or approved equal. Rub sufficiently to bring surface to paste, to remove form marks and projections, and to produce a smooth, dense surface. Add cement to form surface paste

as necessary. Spread or brush material, which has been ground to paste, uniformly over surface and allow to reset. In preparation for final acceptance, clean surfaces and perform final finish rubbing with No. 30 carborundum stone or approved equal. After rubbing, allow paste on the surface to reset; then wash surface with clean water. Leave structure with a clean, neat and uniform-appearing finish.

- C. Apply a wood float finish to concrete slabs.

### 3.12 FIELD QUALITY CONTROL

- A. Testing shall be performed under provisions of Section 01 45 29 - Testing Laboratory Services.
- B. Unless otherwise directed by Engineer, the following minimum testing of concrete is required. Testing shall be performed by qualified individuals employed by an approved independent testing agency, and conform to the requirements of ASTM C 1077.

1. Take concrete samples in accordance with ASTM C 172.
2. Make one set of four compression test specimens for each mix design at least once per day and for each 150 cubic yards or fraction thereof. Make, cure and test the specimens in accordance with ASTM C 31 and ASTM C 39.
3. When taking compression test specimens, test each sample for slump according to ASTM C 143, for temperature according to ASTM C 1064, for air content according to ASTM C 231, and for unit weight according to ASTM C 138.
4. Inspect, sample and test concrete in accordance with ASTM C 94, Section 13, 14, and 15, and ACI 311-5R.

- C. Test Cores: Conform to ASTM C 42.

- D. Testing High Early Strength Concrete: When Type III cement is used in concrete, the specified 7-day and 28-day compressive strengths shall be applicable at 3 and 7 days, respectively.

- E. If 7-day or 3-day test strengths (as applicable for type of cement being used) fail to meet established strength requirements, extended curing or resumed curing on those portions of structure represented by test specimens may be required. If additional curing fails to produce the required strength, strengthening or replacement of portions of structure which fail to develop required strength may be required by the Engineer, at no additional cost to the Owner.

### 3.13 PROTECTION

- A. Protect concrete against damage until final acceptance by the Owner.
- B. Protect fresh concrete from damage due to rain, hail, sleet, or snow. Provide such protection while the concrete is still plastic, and whenever such precipitation is imminent or occurring.
- C. Do not backfill around concrete structures or subject them to design loadings until components of the structure needed to resist the loading are complete and have reached the specified 28-day compressive strength, except as authorized otherwise by the Engineer.

END OF SECTION

**SECTION 31 10 00**

**SITE CLEARING - PREPARATION OF SITE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

This Item shall govern for the preparation of the right-of-way and work site for construction operations by the removal and disposal of all obstructions from the right-of-way, work site and from designated easements, where removal of all such obstructions is not otherwise shown on the plans and specifications.

Such obstructions shall be considered to include remains of houses, foundations, floor slabs, concrete, brick, lumber, plaster, septic tank drain fields, basements, abandoned utility pipes or conduits, equipment, fences, retaining walls, outhouses and shacks.

This Item shall also include the removal of trees and shrubs and other landscape features not designated for preservation, stumps, brush, roots, vegetation, logs, curb and gutter, driveways, paved parking areas, miscellaneous stone, sidewalks, drainage structures, manholes, inlets, abandoned railroad tracks, scrap iron and debris, whether above or below ground except live utility facilities.

**1.02 DELETED**

**PART 2 EXECUTION**

**2.01 PREPARATION**

- A. All areas, as shown on the plans, shall be cleared of all structures and obstructions as defined above. Those trees, shrubs and other landscape features specifically designated by the Engineer for preservation shall be carefully protected from abuse, marring, or damage during construction operations. Continual parking and/or servicing of equipment under the branches of trees marked for preservation will not be permitted. When trees and shrubs are designated for preservation and require pruning, they shall be trimmed as directed by the Engineer and all exposed cuts over 2 inches in diameter shall be treated with a material approved by the Engineer.
- B. Culverts, storm sewers, manholes and inlets shall be removed in proper sequence for maintenance of traffic and drainage.
- C. Underground obstructions, except those items designated for preservation, shall be removed to the following depths:
  - (a) In areas to receive embankment: 2 feet below natural ground, except when permitted by the plans, trees and stumps may be cut off as close to natural ground as practicable on areas which are to be covered by at least three feet of embankment.
  - (b) In areas to be excavated: 2 feet below the lower elevation of the excavation.
  - (c) All other areas: 1 foot below natural ground.

2.02 DISPOSAL

- A. Unless otherwise shown herein, all materials and debris removed shall become the property of the Contractor and shall be removed from the right of way and disposed of in a manner satisfactory to the Engineer.
- B. No timber shall be cut or defaced outside of the construction zone limits or material pit limits as indicated on the plans or by the Engineer.

2.03 BACKFILL

- A. Holes remaining after removal of all obstructions, objectionable material, trees, stumps, etc., shall be backfilled with approved material, compacted and restored to approximately its original contours by blading, bulldozing, or by other methods, as approved by the Engineer. In areas to be immediately excavated, the backfilling of holes may not be required when approved by the Engineer.
- B. Before backfilling, the remaining ends of all abandoned storm sewers, culverts, sanitary sewers, conduits, and water or gas pipes over 3 inches in diameter, shall be plugged with an adequate quantity of concrete to form a tight closure.

END OF SECTION

**SECTION 31 23 00**

**EARTHWORK, EXCAVATION, FILL AND GRADING**

**PART 1 GENERAL**

- 1.01 This section shall cover earthwork, including general clearing, removal, disposal or reutilization of all excavated earthen materials necessary and placement of imported fill material for performing the Work as shown on the drawings, including sheeting and bracing, drainage, and other Work incidental to the preparation of the site for subsequent construction Work.
- 1.02 Prior to commencing construction operations, the contractor shall make all the provisions necessary to assure the protection of all existing improvements, both public and private. Where identified, he shall protect trees, shrubs, planting and grass areas and shall make provisions for maintaining public travel in an acceptable manner.
- 1.03 **PROTECTION OF EXISTING IMPROVEMENTS.** Before any excavation is started, adequate protection shall be provided for all lawns, trees, shrubs, landscape work, fences, sidewalks, hydrants, utility poles, street, alley and driveway paving, curbs, storm sewers, ditches, headwalls, catch basins, surface inlets and all other improvements that are to remain in place. Such protection shall be provided as long as necessary to prevent damage from the CONTRACTOR's operations. Shrubs, bushes, small trees and flowers, which have to be removed to permit excavation for the waterline, shall be protected and replanted or replaced when the backfill is completed. The CONTRACTOR shall exercise every precaution to prevent damage to property within and outside easements.
- 1.04 Any damage to driveways, buildings, fences, retaining walls, culverts, drains, pavings, sidewalks, etc. which are removed or damaged during construction shall be repaired by contractor. Repair, restoration or replacements of any improvements damaged or removed shall be the obligation of the contractor at no additional cost to Owner.
- 1.05 Contractor will obtain all necessary permits in public and private rights-of-way from the City of Brownsville, or any other local regulatory authority, as required
- 1.06 **Drainage:** Contractor shall make provisions for temporarily handling runoff on site, flows in existing creeks, ditches, sewers, and trenches by employing pipes, flumes, or other approved methods at all times when his operations would, in any way, interfere with the natural functioning of said creeks, ditches, sewers and drains. The contractor shall at all times during construction provide and maintain sufficient equipment for the lawful disposal of all ponding water, or water which enters excavations, to render such area firm and dry through the construction phase.
- 1.07 It shall be the responsibility of the Bidder and/or Contractor to determine by a careful study of the plans and field conditions the quantities of excavation and imported fill required to bring the ground to the correct elevation.

**PART 2 PRODUCTS**

- 2.01 **Excavated Material:** Contractor will utilize all of the excess excavated soil material that is not deemed objectionable unless otherwise instructed. All material will be placed, spread, compacted to lines and grades shown on plans or as directed by Engineer

- 2.02 Imported Fill: Select Backfill is acceptable as follows - Class III clayey gravel or sand or Class IV lean clay with a plasticity index between 7 and 20. For pavement subgrade, select fill will serve as an equal to soil treated with lime in accordance with Section 32 11 13.13 – Lime Treatment for Subgrade, to meet plasticity criteria.
- 2.03 Imported Fill: Random Backfill is acceptable as follows - Any suitable soil or mixture of soils within Classes I, II, III and IV; or fat clay (CH) where allowed by the applicable fill or backfill installation specification. Refer to Section 31 23 16.16 - Excavation and Backfill for Structures and Section 31 23 33 - Excavation and Backfill for Utilities. If Random backfill is to be used for pavement subgrade, it shall be treated with lime in accordance with Section 32 11 13.13 – Lime Treatment for Subgrade, to meet plasticity criteria.

### PART 3 EXECUTION

#### 2.01 DISPOSAL OF EXCAVATED MATERIAL

- A. Contractor will utilize all of the excess excavated material, unless otherwise instructed. In such event, Contractor shall dispose of material off site at no cost to Owner. All material will be graded and compacted as shown on plans or as directed by Engineer.

#### 2.02 DESCRIPTION

- A. Work shall consist of the required excavation and placement of excavated materials, and the placement and compaction of imported fill material, within the limits of the site as shown on the plans. The proper utilization of all excavated and imported fill material and the construction shaping and finishing of all earth work on the entire length of pavement, and all other areas within the site will be done in conformity with the required lines, grades, and typical cross sections in accordance with specification requirements herein outlined.

#### 2.03 CONSTRUCTION METHODS

- A. All excavation and corresponding embankment construction shall be performed as specified herein and in the design plans, and the completed site shall conform to the established alignment, grades and cross sections.
- B. When using either excavated material or imported soil material to perform fill or grading operations, each lift shall be mechanically compacted in 6" (six inch) layers to a minimum density of 90% Standard Proctor, for general areas. Engineer may select random areas for density testing to confirm minimum compaction. In areas of street construction (subgrade) minimum density shall be 95%. For backfill of utilities (trenches) or structures, minimum density shall be as prescribed in the applicable specifications, or on the plans.

END OF SECTION

**SECTION 31 23 13**  
**SUBGRADE PREPARATION**

**PART 1 GENERAL**

1.1 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. ASTM International (ASTM):
    - a. D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
    - b. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).

1.2 DEFINITIONS

- A. Optimum Moisture Content: As defined in Section 31 23 23, Fill and Backfill.
- B. Prepared Ground Surface: Ground surface after completion of clearing and grubbing, scalping of sod, stripping of topsoil, excavation to grade, and scarification and compaction of subgrade.
- C. Relative Compaction: As defined in Section 31 23 23, Fill and Backfill.
- D. Relative Density: As defined in Section 31 23 23, Fill and Backfill.
- E. Subgrade: Layer of existing soil after completion of clearing, grubbing, scalping of topsoil prior to placement of fill, roadway structure or base for floor slab.
- F. Proof-Rolling: Testing of subgrade by compactive effort to identify areas that will not support the future loading without excessive settlement.

1.3 SEQUENCING AND SCHEDULING

- A. Complete applicable Work specified in Sections 02 41 00, Demolition; 31 10 00, Site Clearing; and 31 23 16, Excavation, prior to subgrade preparation.

1.4 QUALITY ASSURANCE

- A. Notify Engineer when subgrade is ready for compaction or proof-rolling or

whenever compaction or proof-rolling is resumed after a period of extended inactivity.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Prepare subgrade when unfrozen and free of ice and snow.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION**

3.1 GENERAL

- A. Keep subgrade free of water, debris, and foreign matter during compaction or proof-rolling.
- B. Bring subgrade to proper grade and cross-section and uniformly compact surface.
- C. Do not use sections of prepared ground surface as haul roads. Protect prepared subgrade from traffic.
- D. Maintain prepared ground surface in finished condition until next course is placed.

3.2 COMPACTION

- A. Under Earthfill: Compact upper 6 inches to minimum of 85 percent relative compaction as determined in accordance with ASTM D698 Method.
- B. Under Pavement Structures: Compact upper 6 inches to minimum of 95 percent relative compaction as determined in accordance with ASTM D698 Method.
- C. Under Floor Slabs On Grade: See Structural Design Plans.

3.3 MOISTURE CONDITIONING

- A. Dry Subgrade: Add water, then mix to make moisture content uniform throughout.
- B. Wet Subgrade: Aerate material by blading, discing, harrowing, or other methods, to hasten drying process.

3.4 TESTING

- A. Under Earthfill: Three passes with a loaded dump truck, water truck or similar heavy- wheeled vehicle to detect soft or loose subgrade or unsuitable material, as determined by Engineer.
- B. Under Pavement Structures: Three passes with a loaded dump truck, water truck or similar heavy-wheeled vehicle to detect soft or loose subgrade or unsuitable material, as determined by Engineer.

**3.5 CORRECTION**

- A. Soft or Loose Subgrade:
  - 1. Adjust moisture content and recompact, or
  - 2. Over excavate as specified in Section 31 23 16, Excavation, and replace with suitable material from the excavation, as specified in Section 31 23 23, Fill and Backfill.
- B. Unsuitable Material: Over excavate as specified in Section 31 23 16, Excavation, and replace with suitable material from the excavation, as specified in Section 31 23 23, Fill and Backfill.

**END OF SECTION**

**SECTION 31 23 16**  
**EXCAVATION**

**PART 1 GENERAL**

1.1 DEFINITIONS

- A. Common Excavation: Removal of material not classified as rock excavation.
- B. Rock Excavation:
  - 1. Not applicable.

1.2 SUBMITTALS

- A. Informational Submittals:
  - 1. Excavation Plan, Detailing:
    - a. Methods and sequencing of excavation.
    - b. Proposed locations of stockpiled excavated material.
    - c. Proposed onsite and offsite spoil disposal sites.

1.3 QUALITY ASSURANCE

- A. Provide adequate survey control to avoid unauthorized overexcavation.

1.4 WEATHER LIMITATIONS

- A. Material excavated when frozen or when air temperature is less than 32 degrees F shall not be used as fill or backfill until material completely thaws.
- B. Material excavated during inclement weather shall not be used as fill or backfill until after material drains and dries sufficiently for proper compaction.

1.5 SEQUENCING AND SCHEDULING

- A. Demolition: Complete applicable Work specified in Section 02 41 00, Demolition, prior to excavating.
- B. Clearing, Grubbing, and Stripping: Complete applicable Work specified in Section 31 10 00, Site Clearing, prior to excavating.

- C. Dewatering: Conform to applicable requirements of Section 31 23 19.01, Dewatering, prior to initiating excavation.
  
- D. Excavation Support: Install and maintain, as specified in Section 31 41 00, Shoring, as necessary to support sides of excavations and prevent detrimental settlement and lateral movement of existing facilities, adjacent property, and completed Work.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. Excavate to lines, grades, and dimensions shown and as necessary to accomplish Work. Excavate to within tolerance of plus or minus 0.1 foot, except where dimensions or grades are shown or specified as maximum or minimum. Allow for forms, working space, granular base, topsoil, and similar items, wherever applicable. Trim to neat lines where concrete is to be deposited against earth.
  
- B. Do not overexcavate without written authorization of Engineer.
  
- C. Remove or protect obstructions as shown and as specified in Section 01 50 00, Temporary Facilities and Controls, Article Protection of Work and Property.
  
- D. Use of explosives is not permitted.

**3.2 UNCLASSIFIED EXCAVATION**

- A. Excavation is unclassified. Complete all excavation regardless of the type, nature, or condition of the materials encountered.

**3.03 CLASSIFIED EXCAVATION**

- A. Excavation is classified; see Article Definitions for classifications. Notify Engineer whenever rock is encountered.
  
- B. In event of disputed quantities, excavate additional correlation trenches to apparent rock as considered necessary by Engineer to resolve dispute. Engineer reserves right to stop predrilling and blasting if, in Engineer's opinion, experience indicates that accurate determination of rock quantities is not possible by this method.

### 3.4 TRENCH WIDTH

#### A. Minimum Width of Trenches:

1. Single Pipes, Conduits, Direct-Buried Cables, and Duct Banks:
  - a. Less than 6-inch Outside Diameter or Width: 18 inches.
  - b. Greater than 6-inch Outside Diameter or Width: 18 inches greater than outside diameter or width of pipe, conduit, direct-buried cable, or duct bank.
2. Multiple Pipes, Conduits, Cables, or Duct Banks in Single Trench: 18 inches greater than aggregate width of pipes, conduits, cables, duct banks, plus space between.
3. Increase trench widths by thicknesses of sheeting.

- B. Maximum Trench Width: Unlimited, unless otherwise shown or specified, or unless excess width will cause damage to existing facilities, adjacent property, or completed Work.

### 3.5 PIPE BEDDING GROOVES FOR NONPERFORATED DRAIN LINES

- A. Semicircular, trapezoidal, or 90-degree-V.
- B. Excavated or plowed into trench bottom. Forming groove by compaction will not be acceptable. EMBANKMENT

### 3.06 AND CUT SLOPES

- A. Shape, trim, and finish cut slopes to conform with lines, grades, and cross-sections shown, with proper allowance for topsoil or slope protection, where shown.
- B. Remove stones and rock that exceed 3-inch diameter and that are loose and may roll down slope. Remove exposed roots from cut slopes.
- C. Round tops of cut slopes in soil to not less than a 6-foot radius, provided such rounding does not extend offsite or outside easements and rights-of-way, or adversely impacts existing facilities, adjacent property, or completed Work.

3.7 STOCKPILING EXCAVATED MATERIAL

- A. Stockpile excavated material that is suitable for use as fill or backfill until material is needed.
- B. Post signs indicating proposed use of material stockpiled. Post signs that are readable from all directions of approach to each stockpile. Signs should be clearly worded and readable by equipment operators from their normal seated position.
- C. Confine stockpiles to within easements, rights-of-way, and approved work areas. Do not obstruct roads or streets.
- D. Do not stockpile excavated material adjacent to trenches and other excavations, unless excavation side slopes and excavation support systems are designed, constructed, and maintained for stockpile loads.
- E. Do not stockpile excavated materials near or over existing facilities, adjacent property, or completed Work, if weight of stockpiled material could induce excessive settlement.

3.8 DISPOSAL OF SPOIL

- A. Dispose of excavated materials, which are unsuitable or exceed quantity needed for fill or backfill, offsite.
- B. Dispose of debris resulting from removal of underground facilities as specified in Section 02 41 00, Demolition, for demolition debris.
- C. Dispose of debris resulting from removal of organic matter, trash, refuse, and junk as specified in Section 31 10 00, Site Clearing, for clearing and grubbing debris.

END OF SECTION

**SECTION 31 23 16.13**  
**TRENCH SAFETY SYSTEM**

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Trench safety system for the construction of trench excavations.
2. Trench safety system for structural excavations which fall under provisions of State and Federal trench safety laws.

1.2 DELETED

1.3 DEFINITIONS

1. A trench shall be defined as a narrow excavation (in relation to its depth) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet.
2. The trench safety system requirements will apply to larger open excavations if the erection of structures or other installations limits the space between the excavation slope and these installation to dimensions equivalent of a trench as defined.
3. Trench Safety Systems include but are not limited to sloping, sheeting, trench boxes or trench shields, sheet piling, cribbing, bracing, shoring, dewatering or diversion of water to provide adequate drainage.

1.04 SUBMITTALS

- A. Submittals shall conform to requirements of Section 01 33 00 Submittal Procedures.
- B. Submit a safety program specifically for the construction of trench excavation. Design the trench safety program to be in accordance with OSHA 29CFR standards governing the presence and activities of individuals working in and around trench excavations.
- C. Construction and shop drawings containing deviations from OSHA standards or special designs shall be sealed by a licensed Engineer retained and paid by the Contractor.
- D. Review of the safety program by the City or Engineer will only be in regard to compliance with this specification and will not constitute approval by the City Engineer nor relieve Contractor of obligations under State and Federal trench safety laws.

1.05 REGULATORY REQUIREMENTS

- A. Install and maintain trench safety systems in accordance with the detail specifications set out in the provision of Excavations, Trenching, and Shoring, Federal Occupation Safety and Health Administration (OSHA) Standards, 29CFR, Part 1926, Subpart P, as amended, including Final Rule, published in the Federal Register Vol. 54, No. 209 on Tuesday, October 31, 1989. The sections that are incorporated into these specifications by reference include Sections 1926-650 through 1926-652.
- B. A reproduction of the OSHA standards included in "Subpart P - Excavations" from the Federal Register Vol. 54, No. 209 is available upon request to Contractors bidding on City projects. The City assumes no responsibility for the accuracy of the reproduction. The Contractor is responsible for obtaining a copy of this section of the Federal Register.
- C. Legislation that has been enacted by the Texas Legislature with regard to Trench Safety Systems, is hereby incorporated, by reference, into these specifications. Refer to Texas Health and Safety Code Ann., §756.021 (Vernon 1991).

1.06 INDEMNIFICATION

- A. Contractor shall indemnify and hold harmless the City, its employees and agents, from any and all damages, costs (including, without limitation, legal fees, court costs, and the cost of investigation), judgements or claims by anyone for injury or death of persons resulting from the collapse or failure of trenches constructed under this Contract.
- B. Contractor acknowledges and agrees that this indemnity provision provides indemnity for the City in case the City is negligent either by act or omission in providing for trench safety, including, but not limited to safety program and design reviews, inspections, failures to issue stop work orders, and the hiring of the Contractor.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

1.4 INSTALLATION

- 1. Install and maintain trench safety systems in accordance with provisions of OSHA 29CFR.
- 2. Install specially designed trench safety systems in accordance with the Contractor's trench excavation safety program for the locations and conditions identified in the program.

3. A competent person, as identified in the Contractor's Trench Safety Program, shall verify that trench boxes and other pre-manufactured systems are certified for the actual installation conditions.

1.5 INSPECTION

1. Contractor, or Contractor's independently retained consultant, shall make daily inspections of the trench safety systems to ensure that the installed systems and operations meet OSHA 29CFR and other personnel protection regulations requirements.
2. If evidence of possible cave-ins or slides is apparent, Contractor shall immediately stop work in the trench and move personnel to safe locations until the necessary precautions have been taken by Contractor to safeguard personnel entering the trench.
3. Maintain a permanent record of daily inspections.

1.6 FIELD QUALITY CONTROL

1. Contractor shall verify specific applicability of the selected or specially designed trench safety systems to each field condition encountered on the project.

END OF SECTION

**SECTION 31 23 16.16**

**EXCAVATION AND BACKFILL FOR STRUCTURES**

This specification applies only to applicable construction items within Civil Engineering scope of design, located 5 feet or more away from proposed building(s).

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Excavation, backfilling, and compaction of backfill for structures.

**1.02 DELETED**

**1.03 DEFINITIONS**

- A. Unsuitable Material: Unsuitable soil materials are the following:
  - 1. Materials that are classified as ML, CL-ML, MH, PT, OH, and OL according to ASTM D 2487.
  - 2. Materials that cannot be compacted to the required density due to either gradation, plasticity, or moisture content.
  - 3. Materials that contain large clods, aggregates, stones greater than 4 inches in any dimension, debris, vegetation, waste or any other deleterious materials.
  - 4. Materials that are contaminated with hydrocarbons or other chemical contaminants.
- B. Suitable Material: Suitable soil materials are those meeting specification requirements. Unsuitable soils meeting specification requirements for suitable soils after treatment with lime or cement shall be considered suitable, unless otherwise indicated.
- C. Select Material: Material as defined in Section 31 23 23.13 - Utility Backfill Materials.
- D. Backfill: Select material meeting specified quality requirements, placed and compacted under controlled conditions around structures.
- E. Foundation Backfill Materials: Natural soil or manufactured aggregate meeting Class I requirements and geotextile filter fabrics as required, to control drainage and material separation. Foundation backfill material is placed and compacted as backfill where needed to provide stable support for the structure foundation base. Foundation backfill materials may include concrete fill and seal slabs.

- F. Foundation Base: For foundation base material, use crushed stone aggregate with filter fabric as required, cement stabilized sand, or concrete seal slab. The foundation base provides a smooth, level working surface for the construction of the concrete foundation.
- G. Foundation Subgrade: Foundation subgrade is the surface of the natural soil which has been excavated and prepared to support the foundation base or foundation backfill, where needed.
- H. Ground Water Control Systems: Installations external to the excavation such as well points, eductors, or deep wells. Ground water control includes dewatering to lower the ground water, intercepting seepage which would otherwise emerge from the side or bottom of the excavation, and depressurization to prevent failure or heaving of the excavation bottom. Refer to Section 31 23 19 - Control of Ground Water and Surface Water.
- I. Surface Water Control: Diversion and drainage of surface water runoff and rain water away from the excavation. Remove rain water and surface water which accidentally enters the excavation as a part of excavation drainage.
- J. Excavation Drainage: Removal of surface and seepage water in the excavation by sump pumping and using French drains surrounding the foundation to intercept the water.
- K. Over-Excavation and Backfill: Excavation of subgrade soils with unsatisfactory bearing capacity or composed of otherwise unsuitable materials below the foundation as shown on Drawings, and backfilled with foundation backfill material.
- L. Shoring System: A structure that supports the sides of an excavation to maintain stable soil conditions and prevent cave-ins.

#### 1.04 REFERENCES

- A. ASTM D 558 - Test Methods for Moisture-Density Relations of Soil Cement Mixtures.
- B. ASTM D 698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49-kg) Rammer and 12-in. (304.88-mm) Drop.
- C. ASTM D 1556 - Density of Soil in Place by the Sand-Cone Method.
- D. ASTM D 2487 - Classification of Soils for Engineering Purposes.
- E. ASTM D 2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- F. ASTM D 3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depths).

- G. ASTM D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- H. TxDOT Tex-101-E - Preparation of Soil and Flexible Base Materials for Testing.
- I. TxDOT Tex-110-E - Determination of Particle Size Analysis of Soils.
- J. Federal Regulations, 29 CFR, Part 1926, Standards - Excavation, Occupational Safety and Health Administration (OSHA).

1.05 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 Submittal Procedures.
- B. Submit a work plan for excavation and backfill for each structure with complete written description which identifies details of the proposed method of construction and the sequence of operations for construction relative to excavation and backfill activities. The descriptions, with supporting illustrations, shall be sufficiently detailed to demonstrate to the Entity that the procedures meet the requirements of the Specifications and Drawings.
- C. Submit excavation safety system plan.
  - 1. The excavation safety system plan shall be in accordance with applicable OSHA requirements for all excavations.
  - 2. The excavation safety system plan shall be in accordance with the requirements of Section 31 23 16.13 - Trench Safety System, for all excavations that fall under State and Federal trench safety laws.
- D. Submit a ground and surface water control plan in accordance with requirements in this Section and Section 31 23 19 - Control of Ground Water and Surface Water.
- E. Submit backfill material sources and product quality information in accordance with requirements of Section 31 23 23.13 - Utility Backfill Materials.

1.06 TESTS

- A. Testing and analysis of backfill materials for soil classification and compaction during construction will be performed by an independent laboratory provided by the City in accordance with requirements of Section 01 45 29 - Testing Laboratory Services and as specified in this Section.
- B. Contractor shall perform embedment and backfill material source qualification testing in accordance with requirements of Section 31 23 23.13 - Utility Backfill Materials.

## PART 2 PRODUCTS

### 2.01 EQUIPMENT

- A. Perform excavation with equipment suitable for achieving the requirements of this Specification.
- B. Use equipment which will produce the degree of compaction specified. Backfill within 3 feet of walls shall be compacted with hand operated equipment. Do not use equipment weighing more than 10,000 pounds closer to walls than a horizontal distance equal to the depth of the fill at that time. Use hand operated power compaction equipment where use of heavier equipment is impractical or restricted due to weight limitations.

### 2.02 MATERIAL CLASSIFICATIONS

- A. Backfill materials shall conform to the classifications and product descriptions of Section 31 23 23.13 - Utility Backfill Materials. The classification or product description for backfill applications shall be as shown on the Drawings and as specified.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Conduct an inspection to determine condition of existing structures and other permanent installations.
- B. Set up necessary street detours and barricades in preparation for excavation if construction will affect traffic. Conform to State and local government requirements. Maintain barricades and warning devices at all times for streets and intersections where work is in progress, or where affected by the Work, and is considered hazardous to traffic movements.
- C. Perform work in accordance with OSHA standards. Employ an excavation safety system as specified in Section 31 23 16.13 - Trench Safety Systems.
- D. Remove existing pavements and structures, including sidewalks and driveways, in accordance with requirements of Section 02 40 00 - Removing Existing Pavements and Structures.
- E. Install and operate necessary dewatering and surface water control measures in accordance with requirements of Section 31 23 19 - Control of Ground Water and Surface Water.

### 3.02 PROTECTION

- A. Protect trees, shrubs, lawns, existing structures, and other permanent objects outside of grading limits and within the grading limits as designated on the Drawings.

- B. Protect and support above-grade and below-grade utilities which are to remain.
- C. Restore damaged permanent facilities to pre-construction conditions unless replacement or abandonment of facilities are indicated on the Drawings.
- D. Prevent erosion of excavations and backfill. Do not allow water to pond in excavations.
- E. Maintain excavation and backfill areas until start of subsequent work. Repair and recompact slides, washouts, settlements, or areas with loss of density at no additional cost to the City.

### 3.03 EXCAVATION

- A. Perform excavation work so that the underground structure can be installed to depths and alignments shown on Drawings. Use caution during excavation work to avoid disturbing surrounding ground and existing facilities and improvements. Keep excavation to the absolute minimum necessary. No additional payment will be made for excess excavation not authorized by Entity.
- B. Upon discovery of unknown utilities, badly deteriorated utilities not designated for removal, or concealed conditions, discontinue work at that location. Notify Entity and obtain instructions before proceeding in such areas.
- C. Immediately notify the agency or company owning any line which is damaged, broken or disturbed. Obtain approval from Entity and agency for any repairs or relocations, either temporary or permanent.
- D. Avoid settlement of surrounding soil due to equipment operations, excavation procedures, vibration, dewatering, or other construction methods.
- E. Provide surface drainage during construction to protect work and to avoid nuisance to adjoining property. Where required, provide proper dewatering and piezometric pressure control during construction.
- F. Conduct hauling operations so that trucks and other vehicles do not create a dirt nuisance in streets. Verify that truck beds are sufficiently tight and loaded in such a manner that objectionable materials will not spill onto streets. Promptly clear away any dirt, mud, or other materials that spill onto streets or are deposited onto streets by vehicle tires.
- G. Maintain permanent benchmarks, monumentation, and other reference points. Unless otherwise directed, replace those which are damaged or destroyed by the Work.
- H. Provide sheeting, shoring, and bracing where required to safely complete the Work, to prevent excavation from extending beyond limits indicated on Drawings, and to protect the Work and adjacent structures or improvements. Sheeting, shoring, and bracing used to protect workmen and the public shall conform to requirements of Section 31 23 16.13 - Trench Safety Systems.

- I. Prevent voids from forming outside of sheeting. Immediately fill voids with grout, concrete fill, cement stabilized sand, or other material approved by Entity.
- J. After completion of the structure, remove sheeting, shoring, and bracing unless shown on Drawings to remain in place or directed by Entity in writing that such temporary structures may remain. Remove sheeting, shoring and bracing in such a manner as to maintain safety during backfilling operations and to prevent damage to the Work and adjacent structures or improvements.
- K. Immediately fill and compact voids left or caused by removal of sheeting with cement stabilized sand or material approved by Entity.

#### 3.04 HANDLING EXCAVATED MATERIALS

- A. Classify excavated materials. Place material which is suitable for use as backfill in orderly piles at a sufficient distance from excavation to prevent slides or cave-ins.
- B. Provide additional backfill material if adequate quantities of suitable material are not available from excavation and trenching operations at the site.

#### 3.05 DEWATERING

- A. Provide ground water control per Section 31 23 19 - Control of Ground Water and Surface Water.
- B. Keep ground water surface elevation a minimum of 2 feet below the bottom of the foundation base.
- C. Maintain ground water control as directed by Section 31 23 19 - Control of Ground Water and Surface Water and until the structure is sufficiently complete to provide the required weight to resist hydrostatic uplift with a minimum safety factor of 1.2.

#### 3.06 FOUNDATION EXCAVATION

- A. Notify Entity at least 48 hours prior to planned completion of foundation excavations. Do not place the foundation base until the excavation is accepted by the Entity.
- B. Excavate to elevations shown on Drawings, as needed to provide space for the foundation base, forming a level undisturbed surface, free of mud or soft material. Remove pockets of soft or otherwise unstable soils and replace with foundation backfill material or a material as directed by the Entity. Prior to placing material over it, recompact the subgrade where indicated on the Drawings, scarifying as needed, to 95 percent of the maximum Standard Dry Density according to ASTM D 698. If the specified level of compaction cannot be achieved, moisture condition the subgrade and recompact until 95 percent is achieved, over-excavate to provide a minimum layer of 24 inches of foundation backfill material, or other means acceptable to the Entity.

- C. Fill unauthorized excessive excavation with foundation backfill material or other material as directed by the Entity.
- D. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in a satisfactory, undisturbed condition. Keep excavations free of standing water and completely free of water during concrete placement.
- E. Soils which become unsuitable due to inadequate dewatering or other causes, after initial excavation to the required subgrade, shall be removed and replaced with foundation backfill material, as directed by Entity, at no additional cost to the City.
- F. Place foundation base, or foundation backfill material where needed, over the subgrade on same day that excavation is completed to final grade. Where base of excavations are left open for longer periods, protect them with a seal slab or cement-stabilized sand.
- G. Crushed aggregate, and other free draining Class I materials, shall have a filter fabric separating it from native soils or select material backfill. The fabric shall overlap a minimum of 12 inches beyond where another material stops contact with the soil.
- H. Crushed aggregate, and other Class I materials, shall be placed in uniform layers of 8-inch maximum thickness. Compaction shall be by means of at least two passes of a vibratory compactor.

### 3.07 FOUNDATION BASE

- A. After the subgrade is properly prepared, including the placement of foundation backfill where needed, the foundation base shall be placed. The foundation base shall consist of a 12-inch layer of crushed stone aggregate or cement stabilized sand. Alternately, a seal slab with a minimum thickness of 4 inches may be placed. The foundation base shall extend a minimum of 12 inches beyond the edge of the structure foundation, unless shown otherwise on the Drawings.
- B. Where the foundation base and foundation backfill are of the same material, both can be placed in one operation.

### 3.08 BACKFILL

- A. Complete backfill to surface of natural ground or to lines and grades shown on Drawings. Use existing material that qualifies as select material, unless indicated otherwise. Deposit backfill in uniform layers and compact each layer as specified.
- B. Do not place backfill against concrete walls or similar structures until laboratory test breaks indicate that the concrete has reached a minimum of 85 percent of the specified compressive strength. Where walls are supported by slabs or intermediate walls, do not begin backfill operations until the slab or intermediate walls have been placed and concrete has attained sufficient strength.

- C. Remove concrete forms before starting backfill and remove shoring and bracing as work progresses.
- D. Maintain fill material at no less than 2 percent below nor more than 2 percent above optimum moisture content. Place fill material in uniform 8-inch maximum loose layers. Compaction of fill shall be to at least 95 percent of the maximum Standard Dry Density according to ASTM D 698 under paved areas. Compact to at least 90 percent around structures below unpaved areas.
- E. Where backfill is placed against a sloped excavation surface, run compaction equipment across the boundary of the cut slope and backfill to form a compacted slope surface for placement of the next layer of backfill.
- F. Place backfill using cement stabilized sand in accordance with Section 31 32 13.16 - Cement Stabilized Sand.

### 3.09 FIELD QUALITY CONTROL

- A. Testing will be performed under provisions of Section 01 45 29 - Testing Laboratory Services.
- B. Tests will be performed initially on minimum of one different sample of each material type for plasticity characteristics, in accordance with ASTM D 4318, and for gradation characteristics, in accordance with Tex-101-E and Tex-110-E. Additional classification tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- C. In-place density tests of compacted subgrade and backfill will be performed according to ASTM D 1556, or ASTM D 2922 and ASTM D 3017, and at the following frequencies and conditions:
  - 1. A minimum of one test for every 100 cubic yards of compacted backfill material.
  - 2. A minimum of three density tests for each full work shift.
  - 3. Density tests will be performed in all placement areas.
  - 4. The number of tests will be increased if inspection determines that soil types or moisture contents are not uniform or if compacting effort is variable and not considered sufficient to attain uniform density.
- D. At least one test for moisture-density relationships will be initially performed for each type of backfill material in accordance with ASTM D 698. Additional moisture-density relationship tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- E. If tests indicate work does not meet specified compaction requirements, recondition, recompact, and retest at Contractor's expense.

**3.10 DISPOSAL OF EXCESS MATERIAL**

Remove from the site debris resulting from work under this section in accordance with local and state laws and the responsibility of the Contractor.

**END OF SECTION**

**SECTION 31 23 19**

**CONTROL OF GROUND WATER AND SURFACE WATER**

PART 1 GENERAL

1.1 SECTION INCLUDES

1. Dewatering, depressurizing, draining, and maintaining trenches, shaft excavations, structural excavations, and foundation beds in a stable condition, and controlling ground water conditions for tunnel excavations.
2. Protecting work against surface runoff and rising flood waters.
3. Disposing of removed water.

1.2 DELETED

1.3 REFERENCES

1. ASTM D 698 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures, Using 5.5-lb (2.49 kg) Rammer and 12-inch (304.8 mm) Drop.
2. Federal Regulations, 29 CFR Part 1926, Standards-Excavation, Occupational Safety and Health Administration (OSHA).
3. Federal Register 40 CFR (Vol. 55, No. 222) Part 122, EPA Administered Permit Programs (NPDES), Para.122.26(b)(14) Storm Water Discharge.

1.4 DEFINITIONS

1. Ground water control includes both dewatering and depressurization of water-bearing soil layers.
  1. Dewatering includes lowering the water table and intercepting seepage which would otherwise emerge from slopes or bottoms of excavations, or into tunnels and shafts, and disposing of removed water. The intent of dewatering is to increase stability of tunnel excavations and excavated slopes; prevent dislocation of material from slopes or bottoms of excavations; reduce lateral loads on sheeting and bracing; improve excavating and hauling characteristics of excavated material; prevent failure or heaving of the bottom of excavations; and to provide suitable conditions for placement of backfill materials and construction of structures and other installations.
  2. Depressurization includes reduction in piezometric pressure within strata not controlled by dewatering alone, as required to prevent failure or heaving of excavation bottom or instability of tunnel excavations.

2. Excavation drainage includes keeping excavations free of surface and seepage water.
3. Surface drainage includes use of temporary drainage ditches and dikes and installation of temporary culverts and sump pumps with discharge lines as required to protect the Work from any source of surface water.
4. Equipment and instrumentation for monitoring and control of the ground water control system includes piezometers and monitoring wells, and devices, such as flow meters, for observing and recording flow rates.

#### 1.5 PERFORMANCE REQUIREMENTS

1. Conduct subsurface investigations to identify groundwater conditions and to provide parameters for design, installation, and operation of groundwater control systems.
2. Design a ground water control system, compatible with requirements of Federal Regulations 29 CFR Part 1926 and Section 31.23.16.13 - Trench Safety Systems, to produce the following results:
  1. Effectively reduce the hydrostatic pressure affecting:
    1. Excavations.
    2. Tunnel excavation, face stability or seepage into tunnels.
  2. Develop a substantially dry and stable subgrade for subsequent construction operations.
  3. Preclude damage to adjacent properties, buildings, structures, utilities, installed facilities, and other work.
  4. Prevent the loss of fines, seepage, boils, quick condition, or softening of the foundation strata.
  5. Maintain stability of sides and bottom of excavations.
3. Provide ground water control systems may include single-stage or multiple-stage well point systems, eductor and ejector-type systems, deep wells, or combinations of these equipment types.
4. Provide drainage of seepage water and surface water, as well as water from any other source entering the excavation. Excavation drainage may include placement of drainage materials, such as crushed stone and filter fabric, together with sump pumping.
5. Provide ditches, berms, pumps and other methods necessary to divert and drain surface water from excavation and other work areas.

6. Locate ground water control and drainage systems so as not to interfere with utilities, construction operations, adjacent properties, or adjacent water wells.
7. Assume sole responsibility for ground water control systems and for any loss or damage resulting from partial or complete failure of protective measures and any settlement or resultant damage caused by the ground water control operations. Modify ground water control systems or operations if they cause or threaten to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells, or affect potentially contaminated areas. Repair damage caused by ground water control systems or resulting from failure of the system to protect property as required.
8. Provide an adequate number of piezometers installed at the proper locations and depths as required to provide meaningful observations of the conditions affecting the excavation, adjacent structures, and water wells.
9. Provide environmental monitoring wells installed at the proper locations and depths as required to provide adequate observations of hydrostatic conditions and possible contaminant transport from contamination sources into the work area or into the ground water control system.
10. Decommission piezometers and monitoring wells installed during design phase studies and left for Contractors monitoring and use.

#### 1.6 SUBMITTALS

1. Submittals shall conform to requirements of Section 01 33 00 - Submittals.
2. Submit a Ground Water and Surface Water Control Plan for review by the City and Engineer prior to start of any field work. The Plan shall be signed by a Professional Engineer registered in the State of Texas. Submit a plan to include the following:
  1. Results of subsurface investigation and description of the extent and characteristics of water bearing layers subject to ground water control.
  2. Names of equipment suppliers and installation subcontractors.
  3. A description of proposed ground water control systems indicating arrangement, location, depth and capacities of system components, installation details and criteria, and operation and maintenance procedures.
  4. A description of proposed monitoring and control system indicating depths and locations of piezometers and monitoring wells, monitoring installation details and criteria, type of equipment and instrumentation with pertinent data and characteristics.

5. A description of proposed filters including types, sizes, capacities and manufacturer's application recommendations.
  6. Design calculations demonstrating adequacy of proposed systems for intended applications. Define potential area of influence of ground water control operation near contaminated areas.
  7. Operating requirements, including piezometric control elevations for dewatering and depressurization.
  8. Excavation drainage methods including typical drainage layers, sump pump application and other necessary means.
  9. Surface water control and drainage installations.
  10. Proposed methods and locations for disposing of removed water.
3. Submit the following records upon completed initial installation:
    1. Installation and development reports for well points, eductors, and deep wells.
    2. Installation reports and baseline readings for piezometers and monitoring wells.
    3. Baseline analytical test data of water from monitoring wells.
    4. Initial flow rates.
  4. Submit the following records on a weekly basis during operations:
    1. Records of flow rates and piezometric elevations obtained during monitoring of dewatering and depressurization. Refer to Paragraph 3.02, Requirements for Eductor, Well Points, or Deep Wells.
    2. Maintenance records for ground water control installations, piezometers, and monitoring wells.
    5. Submit the following records at end of work. Decommissioning (abandonment) reports for monitoring wells and piezometers installed by other during the design phase and left for Contractor's monitoring and use.

#### 1.7 ENVIRONMENTAL REQUIREMENTS

1. Comply with requirements of agencies having jurisdiction.

2. Comply with Texas Natural Resource Conservation Commission regulations and Texas Water Well Drillers Association for development, drilling, and abandonment of wells used in dewatering system.
3. Obtain permit from EPA under the National Pollutant Discharge Elimination System (NPDES), for storm water discharge from construction sites. Refer to Section 01 57 23 Temporary Storm Water Pollution Control.
4. Obtain all necessary permits from agencies with control over the use of groundwater and matters affecting well installation, water discharge, and use of existing storm drains and natural water sources. Because the review and permitting process may be lengthy, take early action to pursue and submit for the required approvals.
5. Monitor ground water discharge for contamination while performing pumping in the vicinity of potentially contaminated sites.

## PART 2 PRODUCTS

### 1.8 EQUIPMENT AND MATERIALS

1. Equipment and materials are at the option of Contractor as necessary to achieve desired results for dewatering. Selected equipment and materials are subject to review by the City and Engineer through submittals required in Paragraph 1.06, Submittals.
2. Eductors, well points, or deep wells, where used, must be furnished, installed and operated by an experienced contractor regularly engaged in ground water control system design, installation, and operation.
3. All equipment must be in good repair and operating order.
4. Sufficient standby equipment and materials shall be kept available to ensure continuous operation, where required.

### PART 3 EXECUTION

#### 1.9 GROUND WATER CONTROL

1. Perform a subsurface investigation by borings as necessary to identify water bearing layers, piezometric pressures, and soil parameters for design and installation of ground water control systems. Perform pump tests, if necessary to determine the drawdown characteristics of the waterbearing layers. The results shall be presented in the Ground Water and Surface Water Control Plan (See Paragraph 1.06B.1).
2. Provide labor, material, equipment, techniques and methods to lower, control and handle ground water in a manner compatible with construction methods and site conditions. Monitor effectiveness of the installed system and its effect on adjacent property.
3. Install, operate, and maintain ground water control systems in accordance with the Ground Water and Surface Water Control Plan. Notify the Engineer in writing of any changes made to accommodate field conditions and changes to the Work. Provide revised drawings and calculations with such notification.
4. Provide for continuous system operation, including nights, weekends, and holidays. Arrange for appropriate backup if electrical power is primary energy source for dewatering system.
5. Monitor operations to verify that the system lowers ground water piezometric levels at a rate required to maintain a dry excavation resulting in a stable subgrade for prosecution of subsequent operations.
6. Where hydrostatic pressures in confined water bearing layers exist below excavation, depressurize those zones to eliminate risk of uplift or other instability of excavation or installed works. Allowable piezometric elevations shall be defined in the Ground Water and Surface Water Control Plan.
7. Remove ground water control installations.
  1. Remove pumping system components and piping when ground water control is no longer required.
  2. Remove piezometers, including piezometers installed during the design phase investigations and left for Contractor's use, upon completion of testing, in accordance with Section 33 31 00 - Sanitary Utility Sewerage Piping.
  3. Remove monitoring wells when directed by the Engineer.
  4. Grout abandoned well and piezometer holes. Fill piping that is not removed with cement-bentonite grout or cement-sand grout.

8. During backfilling, dewatering may be reduced to maintain water level a minimum of 5 feet below prevailing level of backfill. However, do not allow that water level to result in uplift pressures in excess of 80 percent of downward pressure produced by weight of structure or backfill in place. Do not allow water levels to rise into cement stabilized sand until at least 48 hour after placement.
9. Provide a uniform diameter for each pipe drain run constructed for dewatering. Remove pipe drain when it has served its purpose. If removal of pipe is impractical, provide grout connections at 50-foot intervals and fill pipe with cement-bentonite grout or cement-sand grout when pipe is removed from service.
10. Extent of construction ground water control for structures with a permanent perforated underground drainage system may be reduced, such as for units designed to withstand hydrostatic uplift pressure. Provide a means of draining the affected portion of underground system, including standby equipment. Maintain drainage system during operations and remove it when no longer required.
11. Remove system upon completion of construction or when dewatering and control of surface or ground water is no longer required.
12. Compact backfill to not less than 95 percent of the maximum dry density in accordance with ASTM D 698.

#### 1.10 REQUIREMENTS FOR EDUCTOR, WELL POINTS, OR DEEP WELLS

1. For aboveground piping in ground water control system, include a 12-inch minimum length of clear, transparent piping between every eductor well or well point and discharge header so that discharge from each installation can be visually monitored.
2. Install sufficient piezometers or monitoring wells to show that all trench or shaft excavations in water bearing materials are predrained prior to excavation. Provide separate piezometers for monitoring of dewatering and for monitoring of depressurization. Install piezometers and monitoring wells for tunneling as appropriate for Contractor's selected method of work.
3. Install piezometers or monitoring wells not less than one week in advance of beginning the associated excavation.
4. Dewatering may be omitted for portions of underdrains or other excavations, but only where auger borings and piezometers or monitoring wells show that soil is predrained by an existing system such that the criteria of the ground water control plan are satisfied.
5. Replace installations that produce noticeable amounts of sediments after development.

6. Provide additional ground water control installations, or change the methods, in the event that the installations according to the ground water control plan does not provide satisfactory results based on the performance criteria defined by the plan and by the specification. Submit a revised plan according to Paragraph 1.06B.

#### 1.11 EXCAVATION DRAINAGE

1. Contractor may use excavation drainage methods if necessary to achieve well-drained conditions. The excavation drainage may consist of a layer of crushed stone and filter fabric, and sump pumping in combination with sufficient wells for ground water control to maintain stable excavation and backfill conditions.

#### 1.12 MAINTENANCE AND OBSERVATION

1. Conduct daily maintenance and observation of piezometers or monitoring wells while the ground water control installations or excavation drainage are operating in an area or seepage into tunnel is occurring. Keep system in good condition.
2. Replace damaged and destroyed piezometers or monitoring wells with new piezometers or wells as necessary to meet observation schedule.
3. Cut off piezometers or monitoring wells in excavation areas where piping is exposed, only as necessary to perform observation as excavation proceeds. Continue to maintain and make observations, as specified.
4. Remove and grout piezometers inside or outside the excavation area when ground water control operations are complete. Remove and grout monitoring wells when directed by the Engineer.

#### 1.13 MONITORING AND RECORDING

1. Monitor and record average flow rate of operation for each deep well, or for each wellpoint or eductor header used in dewatering system. Also monitor and record water level and ground water recovery. These records shall be obtained daily until steady conditions are achieved, and twice weekly thereafter.
2. Observe and record elevation of water level daily as long as ground water control system is in operation, and weekly thereafter until the Work is completed or piezometers or wells are removed, except when City Engineer determines that more frequent monitoring and recording are required. Comply with Engineer's direction for increased monitoring and recording and take measures as necessary to ensure effective dewatering for intended purpose.

1.14 SURFACE WATER CONTROL

1. Intercept surface water and divert it away from excavations through use of dikes, ditches, curb walls, pipes, sumps, or other approved means. The requirement includes temporary works required to protect adjoining properties from surface drainage caused by construction operations.
2. Divert surface water and seepage water into sumps and pump it into drainage channels or storm drains, when approved by agencies having jurisdiction. Provide settling basins when required by such agencies.

END OF SECTION

**SECTION 31 23 23.13**  
**UTILITY BACKFILL MATERIALS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Material Classifications.
- B. Utility Backfill Materials:
  - Concrete sand
  - Gem sand
  - Pea gravel
  - Crushed stone
  - Crushed concrete
  - Bank run sand
  - Select backfill
  - Random backfill
- C. Material Handling and Quality Control Requirements.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.
  - 1. No payment will be made for backfill material under this Section. Include payment in unit price for applicable utility installation.
  - 2. Payment for backfill material, when included as a separate pay item, is on a cubic yard basis for material placed and compacted within theoretical trench width limits and thickness of material according to Drawings.
- B. Stipulated Price (Lump Sum). If the Contract is a Stipulated Price Contract, payment for work in this Section is included in the total Stipulated Price.

1.03 DEFINITIONS

- A. Unsuitable Material: Unsuitable soil materials are the following:
  - 1. Materials that are classified as ML, CL-ML, MH, PT, OH, and OL according to ASTM D 2487.

2. Materials that cannot be compacted to the required density because of either gradation, plasticity, or moisture content.
  3. Materials that contain large clods, aggregates, and stones greater than 4 inches in any dimension; debris, vegetation, and waste; or any other deleterious materials.
  4. Materials that are contaminated with hydrocarbons or other chemical contaminants.
- B. Suitable Material: Suitable soil materials are the following:
1. Those meeting specification requirements.
  2. Unsuitable soils meeting specification requirements for suitable soils after treatment with lime or cement.
- C. Foundation Backfill Materials: Natural soil or manufactured aggregate meeting Class I requirements and geotextile filter fabrics as required, to control drainage and material separation. Foundation backfill material is placed and compacted as backfill where needed to provide stable support for the structure foundation base. Foundation backfill materials may include concrete fill and seal slabs.
- D. Foundation Base: Crushed stone aggregate with filter fabric as required, cement stabilized sand, or concrete seal slab. The foundation base provides a smooth, level working surface for the construction of the concrete foundation.
- E. Backfill Material: Classified soil material meeting specified quality requirements for the designated application as embedment or trench zone backfill.
- F. Embedment Material: Soil material placed under controlled conditions within the embedment zone extending vertically upward from top of foundation to an elevation 12 inches above top of pipe, and including pipe bedding, haunching, and initial backfill.
- G. Trench Zone Backfill: Classified soil material meeting specified quality requirements and placed under controlled conditions in the trench zone from top of embedment zone to base course in paved areas or to the surface grading material in unpaved areas.
- H. Foundation: Either suitable soil of the trench bottom, or material placed as backfill of over-excavation for removal and replacement of unsuitable or otherwise unstable soils.
- I. Source: A source selected by the Contractor for supply of embedment or trench zone backfill material. A selected source may be the project excavation, off-site borrow pits, commercial borrow pits, or sand and aggregate production or manufacturing plants.
- J. Refer to Section 31 23 33 - Excavation and Backfill for Utilities for other definitions regarding utility installation by trench construction.

1.04 REFERENCES

- A. ASTM C 33 - Specification for Concrete Aggregate.
- B. ASTM C 40 - Test Method for Organic Impurities in Fine Aggregates for Concrete.
- C. ASTM C 123 - Test Method for Lightweight Pieces in Aggregate.
- D. ASTM C 131 - Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
- E. ASTM C 136 - Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- F. ASTM C 142 - Test Method for Clay Lumps and Friable Particles in Aggregates.
- G. ASTM D 1140 - Test Method for Amount of Materials in Soils Finer Than No. 200 Sieve.
- H. ASTM D 2487 - Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- I. ASTM D 2488 - Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).
- J. ASTM D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- K. ASTM D 4643 - Method for Determination of Water (Moisture) Content of Soil by the Microwave Oven Method.
- L. TxDOT Tex-101-E - Preparation of Soil and Flexible Base Materials for Testing.
- M. TxDOT Tex-104-E - Test Method for Determination of Liquid Limit of Soils (Part 1)
- N. TxDOT Tex-106-E - Test Method - Methods of Calculating Plasticity Index of Soils.
- O. TxDOT Tex-110-E - Determination of Particle Size Analysis of Soils.

1.05 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 Submittal Procedures.
- B. Submit a description of source, material classification and product description, production method, and application of backfill materials.

- C. Submit test results for samples of off-site backfill materials to comply with Paragraph 2.03, Materials Testing.
- D. Before stockpiling materials, submit a copy of temporary easement or approval from landowner for stockpiling backfill material on private property.
- E. For each delivery of material, provide a delivery ticket which includes source location.

#### 1.06 TESTS

- A. Perform tests of sources for backfill material in accordance with Paragraph 2.03B.
- B. Verification tests of backfill materials may be performed by the Owner in accordance with Section 01 45 29 - Testing Laboratory Services and in accordance with Paragraph 3.03.
- C. Random fill obtained from the project excavation as source is exempt from pre-qualification requirements by Contractor but must be inspected by the testing lab for unacceptable materials based on ASTM D 2488.

### PART 2 PRODUCTS

#### 2.01 MATERIAL CLASSIFICATIONS

- A. Materials for backfill shall be classified for the purpose of quality control in accordance with the Unified Soil Classification Symbols as defined in ASTM D 2487. Material use and application is defined in utility installation specifications and Drawings either by class, as described in Paragraph 2.01B, or by product descriptions, as given in Paragraph 2.02.
- B. Class Designations Based on Laboratory Testing:
  - 1. Class I: Well-graded gravels and sands, gravel-sand mixtures, crushed well-graded rock, little or no fines (GW, SW):
    - a. Plasticity index: nonplastic.
    - b. Gradation: D60/D10 - greater than 4 percent; amount passing No. 200 sieve - less than or equal to 5 percent.
  - 2. Class II: Poorly graded gravels and sands, silty gravels and sands, little to moderate fines:
    - a. Plasticity index: nonplastic to 4.
    - b. Gradations:
      - 1) Gradation (GP, SP): amount passing No. 200 sieve - less than 5 percent.

- 2) Gradation (GM, SM): amount passing No. 200 sieve - between 12 percent and 50 percent.
  - 3) Borderline gradations with dual classifications (e.g., SP-SM): amount passing No. 200 sieve - between 5 percent and 12 percent.
3. Class III: Clayey gravels and sands, poorly graded mixtures of gravel, sand, silt, and clay (GC, SC, and dual classifications, e.g., SP-SC):
  - a. Plasticity index: greater than 7.
  - b. Gradation: amount passing No. 200 sieve - between 12 percent and 50 percent.
4. Class IVA: Lean clays (CL).
  - a. Plasticity Indexes:
    - 1) Plasticity index: greater than 7, and above A line.
    - 2) Borderline plasticity with dual classifications (CL-ML): PI between 4 and 7.
  - b. Liquid limit: less than 50.
  - c. Gradation: amount passing No. 200 sieve - greater than 50 percent.
  - d. Inorganic.
5. Class IVB: Fat clays (CH)
  - a. Plasticity index: above A line.
  - b. Liquid limit: 50 or greater.
  - c. Gradation: amount passing No. 200 sieve - greater than 50 percent.
  - d. Inorganic.
6. Use soils with dual class designation according to ASTM D 2487, and which are not defined above, according to the more restrictive class.

## 2.02 PRODUCT DESCRIPTIONS

- A. Soils classified as silt (ML), elastic silt (MH), organic clay and organic silt (OL, OH), and organic matter (PT) are not acceptable as backfill materials. These soils may be used for site grading and restoration in unimproved areas as approved by the Owner. Soils in Class IVB, fat clay (CH) may be used as backfill materials where allowed by the applicable backfill installation specification. Refer to Section 31 23 33 - Excavation and Backfill for Utilities.
- B. Provide backfill material that is free of stones greater than 6 inches, free of roots, waste, debris, trash, organic material, unstable material, non-soil matter, hydrocarbon or other contamination, conforming to the following limits for deleterious materials:
  1. Clay lumps: Less than 0.5 percent for Class I, and less than 2.0 percent for Class II, when tested in accordance with ASTM C 142.

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- 2. Lightweight pieces: Less than 5 percent when tested in accordance with ASTM C 123.
  - 3. Organic impurities: No color darker than standard color when tested in accordance with ASTM C 40.
- C. Manufactured materials, such as crushed concrete, may be substituted for natural soil or rock products where indicated in the product specification, and approved by the Engineer, provided that the physical property criteria are determined to be satisfactory by testing.
- D. Bank Run Sand: Durable bank run sand classified as SP, SW, or SM by the Unified Soil Classification System (ASTM D 2487) meeting the following requirements:
- 1. Less than 15 percent passing the number 200 sieve when tested in accordance with ASTM D 1140. The amount of clay lumps or balls not exceeding 2 percent.
  - 2. Material passing the number 40 sieve shall meet the following requirements when tested in accordance with ASTM D 4318:
    - a. Liquid limit: not exceeding 25 percent.
    - b. Plasticity index: not exceeding 7.
- E. Concrete Sand: Natural sand, manufactured sand, or a combination of natural and manufactured sand conforming to the requirements of ASTM C 33 and graded within the following limits when tested in accordance with ASTM C 136:

Sieve	Percent Passing
3/8"	100
No. 4	95 to 100
No. 8	80 to 100
No. 16	50 to 85
No. 30	25 to 60
No. 50	10 to 30
No. 100	2 to 10

- F. Gem Sand: Sand conforming to the requirements of ASTM C 33 for course aggregates specified for number 8 size and graded within the following limits when tested in accordance with ASTM C 136:

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Sieve	Percent Passing
3/8"	95 to 100
No. 4	60 to 80
No. 8	15 to 40

- G. Pea Gravel: Durable particles composed of small, smooth, rounded stones or pebbles and graded within the following limits when tested in accordance with ASTM C 136:

Sieve	Percent Passing
1/2"	100
3/8"	85 to 100
No. 4	10 to 30
No. 8	0 to 10
No. 16	0 to 5

- H. Crushed Aggregates: Crushed aggregates consist of durable particles obtained from an approved source and meeting the following requirements:

1. Materials of one product delivered for the same construction activity from a single source.
2. Non-plastic fines.
3. Los Angeles abrasion test not exceeding 45 percent when tested in accordance with ASTM C 131.
4. Crushed aggregate shall have a minimum of 90 percent of the particles retained on the No. 4 sieve with 2 or more crushed faces as determined by Test Method Tex-460-A, Part I.
5. Crushed stone: Produced from oversize plant processed stone or gravel, sized by crushing to predominantly angular particles from a naturally occurring single source. Uncrushed gravel is not acceptable material for embedment where crushed stone is shown on the applicable utility embedment drawing details.
6. Crushed Concrete: Crushed concrete is an acceptable substitute for crushed stone as utility backfill. Gradation and quality control test requirements are the same as crushed stone. Provide crushed concrete produced from normal weight concrete of uniform

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quality; containing particles of aggregate and cement material, free from other substances such as asphalt, reinforcing steel fragments, soil, waste gypsum (calcium sulfate), or debris.

7. Gradations, as determined in accordance with Tex-110-E.

Sieve	Percent Passing by Weight for Pipe Embedment by Ranges of Nominal Pipes Sizes		
	>15"	15" - 8"	<8"
1"	95 - 100	100	-
3/4"	60 - 90	90 - 100	100
1/2"	25 - 60	-	90 - 100
3/8"	-	20 - 55	40 - 70
No. 4	0 - 5	0 - 10	0 - 15
No. 8	-	0 - 5	0 - 5

- I. Select Backfill: Class III clayey gravel or sand or Class IV lean clay with a plasticity index between 7 and 20 or clayey soils treated with lime in accordance with Section 32 01 00 - Pavement Repair and Resurfacing, to meet plasticity criteria.
- J. Random Backfill: Any suitable soil or mixture of soils within Classes I, II, III and IV; or fat clay (CH) where allowed by the applicable backfill installation specification. Refer to Section 31 23 16.16 - Excavation and Backfill for Structures and Section 31 23 33 - Excavation and Backfill for Utilities.
- K. Cement Stabilized Sand: Conform to requirements of Section 31 32 13.16 - Cement Stabilized Sand.
- L. Concrete Backfill: Conform to Class B concrete as specified in Section 03 30 00 Cast-in-place - Concrete for Utility Construction.

2.03 MATERIAL TESTING

- A. Ensure that material selected, produced and delivered to the project meets applicable specifications and is of sufficient uniform properties to allow practical construction and quality control.
- B. Source or Supplier Qualification. Perform testing, or obtain representative tests by suppliers, for selection of material sources and products. Provide test results for a minimum of three samples for each source and material type. Test samples of processed materials from current production representing material to be delivered. Tests shall verify that the materials meet specification requirements. Repeat qualification test procedures each time the source characteristic changes or there is a planned change in source location or supplier. Qualification tests shall include, as applicable:
  - 1. Gradation. Complete sieve analyses shall be reported regardless of the specified control sieves. The range of sieves shall be from the largest particle through the No. 200 sieve.
  - 2. Plasticity of material passing the No. 40 sieve.
  - 3. Los Angeles abrasion test of material retained on the No. 4 sieve.
  - 4. Clay lumps.
  - 5. Lightweight pieces
  - 6. Organic impurities
- C. Production Testing. Provide reports to the Owner and the Engineer from an independent testing laboratory that backfill materials to be placed in the Work meet applicable specification requirements.
- D. Assist the Owner and Testing Lab in obtaining material samples for verification testing at the source or at the production plant.

### PART 3 EXECUTION

#### 3.01 SOURCES

- A. Use of material encountered in the trench excavations is acceptable, provided applicable specification requirements are satisfied. If excavation material is not acceptable, provide from other approved source.
- B. Identify off-site sources for backfill materials at least 14 days ahead of intended use so that the Owner or Lab may obtain samples for verification testing.
- C. Obtain approval for each material source by the City Engineer before delivery is started. If sources previously approved do not produce uniform and satisfactory products, furnish materials

from other approved sources. Materials may be subjected to inspection or additional verification testing after delivery. Materials which do not meet the specifications will be rejected. Do not use material which, after approval, has become unsuitable for use due to segregation, mixing with other materials, or by contamination. Once a material is approved by the Owner, expense for sampling and testing required to change to a different material will be credited to the Owner through a change order.

- D. Bank run sand, select backfill, and random backfill, if available in the project excavation, may be obtained by selective excavation and acceptance testing. Obtain additional quantities of these materials and other materials required to complete the work from off-site sources.
- E. The Owner does not represent or guarantee that any soil found in the excavation work will be suitable and acceptable as backfill material.

### 3.02 MATERIAL HANDLING

- A. When backfill material is obtained from either a commercial or non-commercial borrow pit, open the pit to expose the vertical faces of the various strata for identification and selection of approved material to be used. Excavate the selected material by vertical cuts extending through the exposed strata to achieve uniformity in the product.
- B. Establish temporary stockpile locations for practical material handling and control, and verification testing by the Owner in advance of final placement. Obtain approval from landowner for storage of backfill material on adjacent private property.
- C. When stockpiling backfill material near the project site, use appropriate covers to eliminate blowing of materials into adjacent areas and prevent runoff containing sediments from entering the drainage system.
- D. Place stockpiles in layers to avoid segregation of processed materials. Load material by making successive vertical cuts through entire depth of stockpile.

### 3.03 FIELD QUALITY CONTROL

- A. Quality Control
  - 1. The Owner or Engineer may sample and test backfill at:
    - a. Sources including borrow pits, production plants and Contractor's designated off-site stockpiles.
    - b. On-site stockpiles.
    - c. Materials placed in the Work.

2. The Owner or Engineer may resample material at any stage of work or location if changes in characteristics are apparent.
- B. Production Verification Testing: The Owner's testing laboratory will provide verification testing on backfill materials, as directed by the Engineer. Samples may be taken at the source or at the production plant, as applicable.

END OF SECTION

**SECTION 31 23 23.15**

**TRENCH BACKFILL**

**PART 1 GENERAL**

**1.1 REFERENCES**

- A. The following is a list of standards which may be referenced in this section:
1. American Public Works Association (APWA): Uniform Color Code.
  2. ASTM International (ASTM):
    - a. C33/C33M, Standard Specification for Concrete Aggregates.
    - b. C94/C94M, Standard Specification for Ready-Mixed Concrete.
    - c. C117, Standard Test Method for Materials Finer than 75 Micrometer (No. 200) Sieve in Mineral Aggregates by Washing.
    - d. C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
    - e. C150/C150M, Standard Specification for Portland Cement.
    - f. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
    - g. C1012/C1012M, Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution.
    - h. D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
    - i. D1140, Standard Test Methods for Amount of Material in Soils Finer than No. 200 (75 micrometer) Sieve.
    - j. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
    - k. D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
    - l. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
    - m. D4254, Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
    - n. D4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
    - o. D4832, Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.
  3. National Electrical Manufacturers Association (NEMA): Z535.1, Safety Colors.

1.2 DEFINITIONS

- A. Base Rock: Granular material upon which manhole bases and other structures are placed.
- B. Bedding Material: Granular material upon which pipes, conduits, cables, or duct banks are placed.
- C. Imported Material: Material obtained by Contractor from source(s) offsite.
- D. Lift: Loose (uncompacted) layer of material.
- E. Pipe Zone: Backfill zone that includes full trench width and extends from prepared trench bottom to an upper limit above top outside surface of pipe, conduit, cable or duct bank.
- F. Prepared Trench Bottom: Graded trench bottom after excavation and installation of stabilization material, if required, but before installation of bedding material.
- G. Relative Compaction: The ratio, in percent, of the as-compacted field dry density to the laboratory maximum dry density as determined by ASTM D698. Corrections for oversize material may be applied to either as-compacted field dry density or maximum dry density, as determined by Engineer.
- H. Relative Density: As defined by ASTM D4253 and ASTM D4254.
- I. Selected Backfill Material: Material available onsite that Engineer determines to be suitable for a specific use.
- J. Well-Graded: A mixture of particle sizes that has no specific concentration or lack thereof of one or more sizes producing a material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids. Satisfying both of the following requirements, as defined in ASTM D2487:
  - 1. Coefficient of Curvature: Greater than or equal to 1 and less than or equal to 3.
  - 2. Coefficient of Uniformity: Greater than or equal to 4 for materials classified as gravel, and greater than or equal to 6 for materials classified as sand.

1.3 SUBMITTALS

- A. Action Submittals:

1. Shop Drawings: Manufacturer's descriptive literature for marking tapes.
  2. Samples:
    - a. Trench stabilization material.
    - b. Bedding and pipe zone material.
    - c. Granular drain.
    - d. Granular backfill.
    - e. Earth backfill.
    - f. Sand(s).
    - g. Geotextile.
- B. Informational Submittals:
1. Catalog and manufacturer's data sheets for compaction equipment.
  2. Certified Gradation Analysis: Submit not less than 30 days prior to delivery for imported materials or anticipated use for excavated materials, except for trench stabilization material that will be submitted prior to material delivery to Site.
  3. Controlled Low Strength Material: Certified mix design and test results. Include material types and weight per cubic yard for each component of mix.

## **PART 2 PRODUCTS**

### **2.1 GEOTEXTILE**

- A. As specified in Section 31 32 19.16, Geotextile.

### **2.2 MARKING**

#### **TAPE A.**

##### **Detectable:**

1. Solid aluminum foil, visible on unprinted side, encased in protective high visibility, inert polyethylene plastic jacket.
2. Foil Thickness: Minimum 0.35 mils.
3. Laminate Thickness: Minimum 5 mils.
4. Width: 3 inches.
5. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.
6. Joining Clips: Tin or nickel-coated furnished by tape manufacturer.
7. Manufacturers and Products:
  - a. Reef Industries; Terra Tape, Sentry Line Detectable.
  - b. Mutual Industries; Detectable Tape.
  - c. Presco; Detectable Tape.

- B. Color: In accordance with APWA Uniform Color Code.

Color*	Facility
Red	Electric power lines, cables, conduit, and lightning cables
Orange	Communicating alarm or signal lines, cables, or conduit
Yellow	Gas, oil, steam, petroleum, or gaseous materials
Green	Sewers and drain lines
Blue	Potable water
Purple	Reclaimed water, irrigation, and slurry lines
* As specified in NEMA Z535.1, Safety Color Code.	

2.3 TRACER WIRE

- A. Material: Minimum 12-gauge solid copper or copper jacket with a steel core, with high-density polyethylene (HDPE) or high-molecular weight polyethylene (HMWPE) insulation suitable for direct bury.
- B. Splices: Use wire nut or lug suitable for direct burial as recommended by tracer wire manufacturer.
- C. Manufacturers:
1. Copperhead Industries, LLC.
  2. Performance Wire & Cable Inc.
  3. Pro-line Safety Products Company.

2.4 TRENCH STABILIZATION

MATERIAL A. Base Rock:

1. Clean, hard, durable 3-inch minus crushed rock or gravel, or pit run, free from clay balls, other organic materials, or debris.
2. Uniformly graded from coarse to fine, less than 8 percent by weight passing the 1/4-inch sieve.

2.5 BEDDING MATERIAL AND PIPE ZONE MATERIAL

- A. Unfrozen, friable, and no clay balls, roots, or other organic material.
- B. Clean or gravelly sand with less than 7 percent passing No. 200 sieve, as determined in accordance with ASTM D1140, or gravel or crushed rock within maximum particle size and other requirements as follows unless otherwise specified.
  - 1. Duct Banks: 3/4-inch maximum particle size.
  - 2. PVC Irrigation System Piping and Ductile Iron Pipe with Polyethylene Wrap: 3/8-inch maximum particle size.
  - 3. Pipe Under 18-Inch Diameter: 3/4-inch maximum particle size, except 1/4 inch for stainless steel pipe, copper pipe, tubing, and plastic pipe under 3- inch diameter.
  - 4. Pipe 18-Inch Diameter and Greater: 1-1/2-inch maximum particle size for ductile iron pipe, concrete pipe, welded steel pipe, and pretensioned or prestressed concrete cylinder pipe.
  - 5. Perforated Pipe: Granular drain material.
  - 6. Conduit and Direct-Buried Cable:
    - a. Sand, clean or clean to silty, less than 12 percent passing No. 200 sieve.
    - b. Individual Particles: Free of sharp edges.
    - c. Maximum Size Particle: Pass a No. 4 sieve.
    - d. If more than 5 percent passes No. 200 sieve, the fraction that passes No. 40 sieve shall be nonplastic as determined in accordance with ASTM D4318.

2.6 GRANULAR DRAIN MATERIAL

- A. Gradation: ASTM C117 and ASTM C136.

Sieve Size	Percent Passing By Weight
3 inches	[A: ]
1-1/2 inches	[B: ]
3/4 inch	[C: ]
3/8 inch	[D: ]
No. 4	[E: ]
No. 16	[F: ]
No. 50	[G: ]
No. 200	[H: ]

2.7 EARTH BACKFILL

- A. Soil, loam, or other excavated material suitable for use as backfill.
- B. Free from roots or organic matter, refuse, boulders and material larger than 1/2 cubic foot, or other deleterious materials.

2.8 CONTROLLED LOW STRENGTH MATERIAL (CLSM)

- A. Select and proportion ingredients to obtain compressive strength between 50 psi and 150 psi at 28 days in accordance with ASTM D4832.
- B. Materials:
  - 1. Cement: ASTM C150/C150M, Type I or Type II.
  - 2. Aggregate: ASTM C33/C33M, Size 7.
  - 3. Fly Ash (Pozzolan): Class F fly ash in accordance with ASTM C618, except as modified herein:
    - a. ASTM C618, Table 1, Loss on Ignition: Unless permitted otherwise, maximum 3 percent.
  - 4. Water: Clean, potable, containing less than 500 ppm of chlorides.

2.9 CONCRETE BACKFILL

- A. Provide as specified in Section 03 30 00, Cast-in-Place Concrete.
- B. Mix: ASTM C94/C94M, Option A.
  - 1. Cement: ASTM C150/C150M, Type I or Type II.
  - 2. Coarse Aggregate Size: 1-1/2 inch(es).
  - 3. Design for Minimum Compressive Strength at 28 Days: 2,500 psi.

2.10 GRAVEL SURFACING ROCK

- A. As specified in Section 32 11 23, Crushed Limestone Flexible Base.

2.11 TOPSOIL

- A. As specified in Section 32 91 13, Soil Preparation.

2.12 SOURCE QUALITY CONTROL

- A. Perform gradation analysis in accordance with ASTM C136 for:
  - 1. Earth backfill, including specified class.
  - 2. Trench stabilization material.

3. Bedding and pipe zone material.
- B. Certify Laboratory Performance of Mix Designs:

1. Controlled low strength material.
2. Concrete.

### **PART 3 EXECUTION**

#### **3.1 TRENCH PREPARATION**

A. Water Control:

1. As specified in Section 31 23 19.01, Dewatering.
2. Remove water in a manner that minimizes soil erosion from trench sides and bottom.
3. Provide continuous water control until trench backfill is complete.

- B. Remove foreign material and backfill contaminated with foreign material that falls into trench.

#### **3.2 TRENCH BOTTOM**

- A. Firm Subgrade: Grade with hand tools, remove loose and disturbed material, and trim off high areas and ridges left by excavating bucket teeth. Allow space for bedding material if shown or specified.
- B. Soft Subgrade: If subgrade is encountered that may require removal to prevent pipe settlement, notify Engineer. Engineer will determine depth of overexcavation, if any required.

#### **3.3 GEOTEXTILE INSTALLATION**

- A. Where shown and as specified in Section 31 32 19.16, Geotextile, except as follows:

1. Extend geotextile for full width of trench bottom and up the trench wall to the top of the pipe zone, or base material for manholes and miscellaneous structures.
2. Anchor geotextile trench walls prior to placing trench stabilization or bedding material.
3. Provide 24-inch minimum overlap at joints.

#### **3.4 TRENCH STABILIZATION MATERIAL INSTALLATION**

- A. Rebuild trench bottom with trench stabilization material.
- B. Place material over full width of trench in 6-inch lifts to required

grade, providing allowance for bedding thickness.

- C. Compact each lift so as to provide a firm, unyielding support for the bedding material prior to placing succeeding lifts.

### 3.5 BEDDING

- A. Furnish imported bedding material where, in the opinion of Engineer, excavated material is unsuitable for bedding or insufficient in quantity.
- B. Place over full width of prepared trench bottom in two equal lifts when required depth exceeds 8 inches.
- C. Hand grade and compact each lift to provide a firm, unyielding surface.
- D. Minimum Thickness: As shown in the design plans.
- E. Check grade and correct irregularities in bedding material. Loosen top 1 inch to 2 inches of compacted bedding material with a rake or by other means to provide a cushion before laying each section of pipe, conduit, direct-buried cable, or duct bank.
- F. Install to form continuous and uniform support except at bell holes, if applicable, or minor disturbances resulting from removal of lifting tackle.
- G. Bell or Coupling Holes: Excavate in bedding at each joint to permit proper assembly and inspection of joint and to provide uniform bearing along barrel of pipe or conduit.

### 3.6 BACKFILL PIPE ZONE

- A. Upper limit of pipe zone shall not be less than shown in the design plans.
- B. Restrain pipe, conduit, cables, and duct banks as necessary to prevent their movement during backfill operations.
- C. Place material simultaneously in lifts on both sides of pipe and, if applicable, between pipes, conduit, cables, and duct banks installed in same trench.
  - 1. Pipe 10-Inch and Smaller Diameter: First lift less than or equal to 1/2 pipe diameter.
  - 2. Pipe Over 10-Inch Diameter: Maximum 6-inch lifts.
- D. Thoroughly tamp each lift, including area under haunches, with handheld tamping bars supplemented by “walking in” and slicing material under

haunches with a shovel to ensure voids are completely filled before placing each succeeding lift.

3.7 MARKING TAPE INSTALLATION

- A. Continuously install marking tape along centerline of buried piping, on top of last lift of pipe zone material. Coordinate with piping installation drawings.
  - 1. Detectable Marking Tape: Install with nonmetallic piping and waterlines.
  - 2. Nondetectable Marking Tape: Install with metallic piping.

3.8 BACKFILL ABOVE PIPE ZONE

- A. General:
  - 1. Process excavated material to meet specified gradation requirements.
  - 2. Adjust moisture content as necessary to obtain specified compaction.
  - 3. Do not allow backfill to free fall into trench or allow heavy, sharp pieces of material to be placed as backfill until after at least 2 feet of backfill has been provided over top of pipe.
  - 4. Do not use power driven impact type compactors for compaction until at least 4 feet of backfill is placed over top of pipe.
  - 5. Backfill to grade with proper allowances for topsoil, crushed rock surfacing, and pavement thicknesses, wherever applicable.
  - 6. Backfill around structures with same class backfill as specified for adjacent trench, unless otherwise shown or specified.
- B. Class A Backfill:
  - 1. Place in lifts of suitable thickness.
  - 2. Mechanically compact each lift prior to placing succeeding lifts.
  - 3. Determine proper lift thickness, type of compaction equipment, method to use, and amount of compaction necessary to prevent settlement.

C. Class B Backfill:

1. Backfill with earth backfill.
2. Leave trench with backfill material neatly mounded across the entire trench width, but not more than 6 inches above the adjacent ground surface.
3. In lawn, garden, or similar type areas, maintain trench level with the existing adjacent grade.
4. At Other Locations:
  - a. Estimate and provide amount of backfill material required so that after normal settlement, settled surface will match adjacent ground surface.
  - b. Neatly windrow material over trench, and remove excess.
  - c. Correct excess or deficiency of backfill material apparent after settlement and within correction period by regrading, and disposing of excess material or adding additional material where deficient.
5. Compact Class C backfill as a substitute for Class D backfill under the following conditions:

D. Concrete Backfill:

1. Place above bedding.
2. Minimum Concrete Thickness: 6 inches on top and sides of pipe.
3. Do not allow dirt or foreign material to become mixed with concrete during placement.
4. Allow sufficient time for concrete to reach initial set before additional backfill material is placed in trench.
5. Prevent flotation of pipe.
6. Begin and end concrete backfill within 4 inches of a pipe joint on each end.
7. Do not encase pipe joints except within the limits of the concrete backfill.

E. Controlled Low Strength Material:

1. Discharge from truck mounted drum type mixer into trench.
2. Place in lifts as necessary to prevent uplift (flotation) of new and existing facilities.

3.9 REPLACEMENT OF TOPSOIL

- A. Replace topsoil in top 12 inches of backfilled trench.
- B. Maintain finished grade of topsoil even with adjacent area and grade as necessary to restore drainage.

3.10 MAINTENANCE OF TRENCH BACKFILL

- A. After each section of trench is backfilled, maintain surface of backfilled trench even with adjacent ground surface until final surface restoration is completed.
- B. Gravel Surfacing Rock: Add gravel surfacing rock where applicable and as necessary to keep surface of backfilled trench even with adjacent ground surface, and grade and compact as necessary to keep surface of backfilled trenches smooth, free from ruts and potholes, and suitable for normal traffic flow.
- C. Topsoil: Add topsoil where applicable and as necessary to maintain surface of backfilled trench level with adjacent ground surface.
- D. Concrete Pavement: Replace settled slabs as specified in Section 32 12 16, Hot Mix Asphaltic Concrete.
- E. Asphaltic Pavement: Replace settled areas or fill with asphalt as specified in Section 32 12 16, Hot Mix Asphaltic Concrete.
- F. Other Areas: Add excavated material where applicable and keep surface of backfilled trench level with adjacent ground surface.

3.11 SETTLEMENT OF BACKFILL

- A. Settlement of trench backfill, or of fill, or facilities constructed over trench backfill will be considered a result of defective compaction of trench backfill.

**END OF SECTION**

**SECTION 31 23 33  
EXCAVATION AND BACKFILL FOR UTILITIES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Excavation, trenching, foundation, embedment, and backfill for installation of utilities, including manholes and other pipeline structures.

**1.02 DELETED**

**1.03 DEFINITIONS**

- A. Pipe Foundation: Suitable and stable native soils that are exposed at the trench subgrade after excavation to depth of bottom of the bedding as shown on the Drawings, or foundation backfill material placed and compacted in over-excavations.
- B. Pipe Bedding: The portion of trench backfill that extends vertically from top of foundation up to a level line at bottom of pipe, and horizontally from one trench sidewall to opposite sidewall.
- C. Haunching: The material placed on either side of pipe from top of bedding up to springline of pipe and horizontally from one trench sidewall to opposite sidewall.
- D. Initial Backfill: The portion of trench backfill that extends vertically from springline of pipe (top of haunching) up to a level line 12 inches above top of pipe, and horizontally from one trench sidewall to opposite sidewall.
- E. Pipe Embedment: The portion of trench backfill that consists of bedding, haunching and initial backfill.
- F. Trench Zone: The portion of trench backfill that extends vertically from top of pipe embedment up to pavement subgrade or up to final grade when not beneath pavement.
- G. Unsuitable Material: Unsuitable soil materials are the following:
  - 1. Materials that are classified as ML, CL-ML, MH, PT, OH, and OL according to ASTM D 2487.
  - 2. Materials that cannot be compacted to required density due to either gradation, plasticity, or moisture content.

3. Materials that contain large clods, aggregates, stones greater than 4 inches in any dimension, debris, vegetation, waste or any other deleterious materials.
  4. Materials that are contaminated with hydrocarbons or other chemical contaminants.
- H. Suitable Material: Suitable soil materials are those meeting specification requirements. Unsuitable soils meeting specification requirements for suitable soils after treatment with lime or cement are considered suitable, unless otherwise indicated.
- I. Backfill: Suitable material meeting specified quality requirements, placed and compacted under controlled conditions.
- J. Ground Water Control Systems: Installations external to trench, such as well points, eductors, or deep wells. Ground water control includes dewatering to lower ground water, intercepting seepage which would otherwise emerge from side or bottom of trench excavation, and depressurization to prevent failure or heaving of excavation bottom. Refer to Section 31 23 19 - Control of Ground Water and Surface Water.
- K. Surface Water Control: Diversion and drainage of surface water runoff and rain water away from trench excavation. Rain water and surface water accidentally entering trench shall be controlled and removed as a part of excavation drainage.
- L. Excavation Drainage: Removal of surface and seepage water in trench by sump pumping and using a drainage layer, as defined in ASTM D 2321, placed on the foundation beneath pipe bedding or thickened bedding layer of Class I material.
- M. Trench Conditions are defined with regard to the stability of trench bottom and trench walls of pipe embedment zone. Maintain trench conditions that provide for effective placement and compaction of embedment material directly on or against undisturbed soils or foundation backfill, except where structural trench support is necessary.
1. Dry Stable Trench: Stable and substantially dry trench conditions exist in pipe embedment zone as a result of typically dry soils or achieved by ground water control (dewatering or depressurization) for trenches extending below ground water level.
  2. Stable Trench with Seepage: Stable trench in which ground water seepage is controlled by excavation drainage.
    - a. Stable Trench with Seepage in Clayey Soils: Excavation drainage is provided in lieu of or to supplement ground water control systems to control seepage and provide stable trench subgrade in predominately clayey soils prior to bedding placement.

- b. Stable Wet Trench in Sandy Soils: Excavation drainage is provided in the embedment zone in combination with ground water control in predominately sandy or silty soils.
- 3. Unstable Trench: Unstable trench conditions exist in the pipe embedment zone if ground water inflow or high water content causes soil disturbances, such as sloughing, sliding, boiling, heaving or loss of density.
- N. Subtrench: Subtrench is a special case of benched excavation. Subtrench excavation below trench shields or shoring installations may be used to allow placement and compaction of foundation or embedment materials directly against undisturbed soils. Depth of a subtrench depends upon trench stability and safety as determined by the Contractor.
- O. Trench Dam: A placement of low permeability material in pipe embedment zone or foundation to prohibit ground water flow along the trench.
- P. Over-Excavation and Backfill: Excavation of subgrade soils with unsatisfactory bearing capacity or composed of otherwise unsuitable materials below top of foundation as shown on Drawings, and backfilled with foundation backfill material.
- Q. Foundation Backfill Materials: Natural soil or manufactured aggregate of controlled gradation, and geotextile filter fabrics as required, to control drainage and material separation. Foundation backfill material is placed and compacted as backfill to provide stable support for bedding. Foundation backfill materials may include concrete seal slabs.
- R. Trench Safety Systems include both protective systems and shoring systems as defined in Section 31 23 16.13 - Trench Safety Systems.
- S. Trench Shield (Trench Box): A portable worker safety structure moved along the trench as work proceeds, used as a protective system and designed to withstand forces imposed on it by cave-in, thereby protecting persons within the trench. Trench shields may be stacked if so designed or placed in a series depending on depth and length of excavation to be protected.
- T. Shoring System: A structure that supports sides of an excavation to maintain stable soil conditions and prevent cave-ins, or to prevent movement of the ground affecting adjacent installations or improvements.
- U. Special Shoring: A shoring system meeting special shoring as specified in Paragraph 1.08, Special Shoring Design Requirements, for locations identified on the Drawings.

#### 1.04 REFERENCES

- A. ASTM C 12 - Standard Practice for Installing Vitrified Clay Pipe Lines.
- B. ASTM D 558 - Test Methods for Moisture-Density Relations of Soil Cement Mixtures.

- C. ASTM D 698 Test Methods for Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 5.5 lb (2.49 kg) Rammer and 12 in. (304.8 mm) Drop.
- D. ASTM D 1556 - Test Method for Density in Place by the Sand-Cone Method.
- E. ASTM D 2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications.
- F. ASTM D 2487 Classification of Soils for Engineering Purposes.
- G. ASTM D 2922 - Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- H. ASTM D 3017 - Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
- I. ASTM D 4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- J. TxDOT Tex-101-E - Preparation of Soil and Flexible Base Materials for Testing.
- K. TxDOT Tex-110-E - Determination of Particle Size Analysis of Soils.
- L. Federal Regulations, 29 CFR Part 1926, Standards-Excavation, Occupational Safety and Health Administration (OSHA).

1.05 SCHEDULING

- A. Schedule work so that pipe embedment can be completed on the same day that acceptable foundation has been achieved for each section of pipe installation, manhole, or other structures.

1.06 SUBMITTALS

- A. Conform to Section 01 33 00 - Submittal Procedures.
- B. Submit a written description for information only of the planned typical method of excavation, backfill placement and compaction, including:
  - 1. Sequence of work and coordination of activities.
  - 2. Selected trench widths.
  - 3. Procedures for foundation and embedment placement, and compaction.

- 4. Procedure for use of trench boxes and other pre-manufactured systems while assuring specified compaction against undisturbed soil.
- 5. Procedure for installation of Special Shoring at locations identified on the Drawings.
- C. Submit a ground and surface water control plan in accordance with requirements in this Section and Section 31 23 19 - Control of Ground Water and Surface Water.
- D. Submit backfill material sources and product quality information in accordance with requirements of Section 31 23 23.13 - Utility Backfill Materials.
- E. Submit a trench excavation safety program in accordance with requirements of Section 31 23 16.13 Trench Safety System. Include designs for special shoring meeting the requirements defined in Paragraph 1.08, Special Shoring Design Requirements.
- F. Submit record of location of utilities as installed, referenced to survey control points. Include locations of utilities encountered or rerouted. Give stations, horizontal dimensions, elevations, inverts, and gradients.

#### 1.07 TESTS

- A. Testing and analysis of backfill materials for soil classification and compaction during construction will be performed by an independent laboratory provided by the City in accordance with requirements of Section 01 45 29 - Testing Laboratory Services and as specified in this Section.
- B. Perform backfill material source qualification testing in accordance with requirements of Section 31 23 23.13 - Utility Backfill Materials.

#### 1.08 SPECIAL SHORING DESIGN REQUIREMENTS

- A. Have special shoring designed or selected by the Contractor's Professional Engineer to provide support for the sides of the excavations, including soils and hydrostatic ground water pressures as applicable, and to prevent ground movements affecting adjacent installations or improvements such as structures, pavements and utilities. Special shoring may be a pre-manufactured system selected by the Contractor's Professional Engineer to meet the project site requirements based on the manufacturer's standard design.

**PART 2 PRODUCTS**

**2.01 EQUIPMENT**

- A. Perform excavation with hydraulic excavator or other equipment suitable for achieving the requirements of this Section.
- B. Use only hand operated tamping equipment until a minimum cover of 12 inches is obtained over pipes, conduits, and ducts. Do not use heavy compacting equipment until adequate cover is attained to prevent damage to pipes, conduits, or ducts.
- C. Use trench shields or other protective systems or shoring systems which are designed and operated to achieve placement and compaction of backfill directly against undisturbed native soil.
- D. Use special shoring systems where required which may consist of braced sheeting, braced soldier piles and lagging, slide rail systems, or other systems meeting requirements as specified in Paragraph 1.09, Shoring Design Requirements.

**2.02 MATERIAL CLASSIFICATIONS**

- A. Embedment and Trench Zone Backfill Materials: Conform to classifications and product descriptions of Section 31 23 23.13 - Utility Backfill Materials.
- B. Concrete Backfill: Conform to requirements for Class B concrete as specified in Section 03 30 00 – Cast-in-Place Concrete / Concrete for Utility Construction.
- C. Geotextile (Filter Fabric): Conform to requirements of Section 31 32 19.16 – Geotextile.
- D. Concrete for Trench Dams: Concrete backfill or 3 sack premixed (bag) concrete.
- E. Timber Shoring Left in Place: Untreated oak.

**PART 3 EXECUTION**

**3.01 STANDARD PRACTICE**

- A. Install flexible pipe, including "semi-rigid" pipe, to conform to standard practice described in ASTM D 2321, and as described in this Section. Where an apparent conflict occurs between the standard practice and the requirements of this Section, this Section governs.
- B. Install rigid pipe to conform to standard practice described in ASTM C 12, and as described in this Section. Where an apparent conflict occurs between the standard practice and the requirements of this Section, this Section governs.

3.02 PREPARATION

- A. Establish traffic control to conform with requirements of Section 01 55 26 - Traffic Control and Regulation. Maintain barricades and warning lights for streets and intersections affected by the Work, and is considered hazardous to traffic movements.
- B. Perform work to conform with applicable safety standards and regulations. Employ a trench safety system as specified in Section 31 23 16.13 - Trench Safety Systems.
- C. Immediately notify the agency or company owning any existing utility line which is damaged, broken, or disturbed. Obtain approval from the City Engineer and agency for any repairs or relocations, either temporary or permanent.
- D. Remove existing pavements and structures, including sidewalks and driveways, to conform with requirements of Section 02 41 00 - Demolition, as applicable.
- E. Install and operate necessary dewatering and surface water control measures to conform with Section 31 23 19 - Control of Ground Water and Surface Water.
- F. Maintain permanent benchmarks, monumentation, and other reference points. Contractor shall be responsible for engaging the services of a Registered Professional Land Surveyor (RPLS) to replace any reference points which are damaged or destroyed.

3.03 PROTECTION

- A. Protect trees, shrubs, lawns, existing structures, and other permanent objects outside of grading limits and within the grading limits as designated on the Drawings, If damaged, contractor shall be responsible for restoration of any of the above items to their original condition.
- B. Protect and support above-grade and below-grade utilities which are to remain.
- C. Restore damaged permanent facilities to pre-construction conditions unless replacement or abandonment of facilities are indicated on the Drawings.
- D. Take measures to minimize erosion of trenches. Do not allow water to pond in trenches. Where slides, washouts, settlements, or areas with loss of density or pavement failures or potholes occur, repair, recompact, and pave those areas at no additional cost to City.

3.04 EXCAVATION

- A. Except as otherwise specified or shown on the Drawings, install underground utilities in open cut trenches with vertical sides.
- B. Perform excavation work so that pipe, conduit, and ducts can be installed to depths and alignments shown on the Drawings. Avoid disturbing surrounding ground and existing facilities and improvements.
- C. Determine trench excavation widths using the following schedule as related to pipe outside diameter (O.D.). Maximum trench width shall be the minimum trench width plus 24 inches.

Nominal Pipe Size, Inches	Minimum Trench Width, Inches
Less than 18	O.D. + 18
18 to 30	O.D. + 24
Greater than 30	O.D. + 36

- D. Use sufficient trench width or benches above the embedment zone for installation of well point headers or manifolds and pumps where depth of trench makes it uneconomical or impractical to pump from the surface elevation. Provide sufficient space between shoring cross braces to permit equipment operations and handling of forms, pipe, embedment and backfill, and other materials.
- E. Upon discovery of unknown utilities, badly deteriorated utilities not designated for removal, or concealed conditions, discontinue work at that location. Notify the City and obtain instructions before proceeding.
- F. Shoring of Trench Walls.
  - 1. Install Special Shoring in advance of trench excavation or simultaneously with the trench excavation, so that the soils within the full height of the trench excavation walls will remain laterally supported at all times.
  - 2. For all types of shoring, support trench walls in the pipe embedment zone throughout the installation. Provide trench wall supports sufficiently tight to prevent washing the trench wall soil out from behind the trench wall support.
  - 3. Unless otherwise directed by the City, leave sheeting driven into or below the pipe embedment zone in place to preclude loss of support of foundation and embedment materials. Leave rangers, walers, and braces in place as long as required to support sheeting, which has been cut off, and the trench wall in the vicinity of the pipe zone.

4. Employ special methods for maintaining the integrity of embedment or foundation material. Before moving supports, place and compact embedment to sufficient depths to provide protection of pipe and stability of trench walls. As supports are moved, finish placing and compacting embedment.
  5. If sheeting or other shoring is used below top of the pipe embedment zone, do not disturb pipe foundation and embedment materials by subsequent removal. Maximum thickness of removable sheeting extending into the embedment zone shall be the equivalent of a 1-inch-thick steel plate. Fill voids left on removal of supports with compacted backfill material.
- G. Use of Trench Shields. When a trench shield (trench box) is used as a worker safety device, the following requirements apply:
1. Make trench excavations of sufficient width to allow shield to be lifted or pulled freely, without damage to the trench sidewalls.
  2. Move trench shields so that pipe, and backfill materials, after placement and compaction, are not damaged nor disturbed, nor the degree of compaction reduced.
  3. When required, place, spread, and compact pipe foundation and bedding materials beneath the shield. For backfill above bedding, lift the shield as each layer of backfill is placed and spread. Place and compact backfill materials against undisturbed trench walls and foundation.
  4. Maintain trench shield in position to allow sampling and testing to be performed in a safe manner.

### 3.05 HANDLING EXCAVATED MATERIALS

- A. Use only excavated materials which are suitable as defined in this Section and conforming with Section 31 23 23.13 - Utility Backfill Materials. Place material suitable for backfilling in stockpiles at a distance from the trench to prevent slides or cave ins.
- B. When required, provide additional backfill material conforming with requirements of Section 31 23 23.13 - Utility Backfill Materials.
- C. Do not place stockpiles of excess excavated materials on streets and adjacent properties. Protect excess stockpiles for use on site

3.06 GROUND WATER CONTROL

- A. Implement ground water control according to Section 31 23 19 - Control of Ground Water and Surface Water. Provide a stable trench to allow installation in accordance with the Specifications.

3.07 TRENCH FOUNDATION

- A. Excavate bottom of trench to uniform grade to achieve stable trench conditions and satisfactory compaction of foundation or bedding materials.
- B. Place trench dams in Class I foundations in line segments longer than 100 feet between manholes, and not less than one in every 500 feet of pipe placed. Install additional dams as needed to achieve workable construction conditions. Do not place trench dams closer than 5 feet from manholes.

3.08 PIPE EMBEDMENT, PLACEMENT, AND COMPACTION

- A. Immediately prior to placement of embedment materials, the bottoms and sidewalls of trenches shall be free of loose, sloughing, caving, or otherwise unsuitable soil.
- B. Place embedment including bedding, haunching, and initial backfill as shown on Drawings.
- C. For pipe installation, manually spread embedment materials around the pipe to provide uniform bearing and side support when compacted. Do not allow materials to free-fall from heights greater than 24 inches above top of pipe. Perform placement and compaction directly against the undisturbed soils in the trench sidewalls, or against sheeting which is to remain in place.
- D. Do not place trench shields or shoring within height of the embedment zone unless means to maintain the density of compacted embedment material are used. If moveable supports are used in embedment zone, lift the supports incrementally to allow placement and compaction of the material against undisturbed soil.
- E. Place geotextile to prevent particle migration from the in-situ soil into open-graded (Class I) embedment materials or drainage layers.
- F. Do not damage coatings or wrappings of pipes during backfilling and compacting operations. When embedding coated or wrapped pipes, do not use crushed stone or other sharp, angular aggregates.
- G. Place haunching material manually around the pipe and compact it to provide uniform bearing and side support. If necessary, hold small-diameter or lightweight pipe in place during compaction of haunch areas and placement beside the pipe with sand bags or other suitable means.

- H. Place electrical conduit, if used, directly on foundation without bedding.
- I. Shovel in-place and compact embedment material using pneumatic tampers in restricted areas, and vibratory-plate compactors or engine-powered jumping jacks in unrestricted areas. Compact each lift before proceeding with placement of next lift. Water tamping is not allowed.
- J. For water lines construction embedment, use bank run sand, concrete sand, gem sand, pea gravel, or crushed limestone as specified in Section 31 23 23.13 - Utility Backfill Material. For water lines adhere to the following subparagraph numbers 1 and 2; for utility installation other than water, adhere to numbers 3 and 4 below:
  - 1. Class I, II, and III Embedment Materials:
    - a. Maximum 6 inches compacted lift thickness.
    - b. Compact to achieve a minimum of 95 percent of maximum dry density as determined according to ASTM D 698.
    - c. Moisture content to be within -3 percent to +5 percent of optimum as determined according to ASTM D 698, unless otherwise approved by City Engineer.
  - 2. Cement Stabilized Sand:
    - a. Maximum 6 inches compacted thickness.
    - b. Compact to achieve a minimum of 95 percent of maximum dry density as determined according to ASTM D 698.
    - c. Moisture content to be on dry side of optimum as determined according to ASTM D 698 but sufficient for effective hydration.
  - 3. Class I embedment materials.
    - a. Maximum 6-inches compacted lift thickness.
    - b. Systematic compaction by at least two passes of vibrating equipment. Increase compaction effort as necessary to effectively embed the pipe to meet the deflection test criteria.
    - c. Moisture content as determined by Contractor for effective compaction without softening the soil of trench bottom, foundation or trench walls.
  - 4. Class II embedment and cement stabilized sand.

- a. Maximum 6-inches compacted thickness.
  - b. Compaction by methods determined by Contractor to achieve a minimum of 95 percent of the maximum dry density as determined according to ASTM D 698 for Class II materials and according to ASTM D 558 for cement stabilized materials.
  - c. Moisture content of Class II materials within 3 percent of optimum as determined according to ASTM D 698. Moisture content of cement stabilized sands on the dry side of optimum as determined according to ASTM D 558 but sufficient for effective hydration.
- K. Place trench dams in Class I embedments in line segments longer than 100 feet between manholes, and not less than one in every 500 feet of pipe placed. Install additional dams as needed to achieve workable construction conditions. Do not place trench dams closer than 5 feet from manholes.

**3.09 TRENCH ZONE BACKFILL PLACEMENT AND COMPACTION**

- A. Place backfill for pipe or conduits and restore surface as soon as practicable. Leave only the minimum length of trench open as necessary for construction.
- B. Where damage to completed pipe installation work is likely to result from withdrawal of sheeting, leave the sheeting in place. Cut off sheeting 1.5 feet or more above the crown of the pipe. Remove trench supports within 5 feet from the ground surface.
- C. For sewer pipes, use backfill materials described here as determined by trench limits. As trench zone backfill in paved areas for streets and to one foot back of curbs and pavements, use cement stabilized sand for pipe of nominal sizes less than 36 inches. Uniformly backfill trenches partially within limits one foot from streets and curbs according to the paved area criteria. Use select backfill within one foot below pavement subgrade for rigid pavement. For asphalt concrete, use flexible base material within one foot below pavement subgrade.
- D. For water lines, backfill in trench zone, including auger pits, with bank run sand, select fill, or random backfill material as specified in Section 31 23 23.13 - Utility Backfill materials.
- E. When shown on Drawings, a random backfill of suitable material may be used in trench zone for trench excavations outside pavements.
- F. Place trench zone backfill in lifts and compact by methods selected by the Contractor. Fully compact each lift before placement of the next lift.
  - 1. Bank run sand.
    - a. Maximum 9-inches compacted lift thickness.

- b. Compaction by vibratory equipment to a minimum of 95 percent of the maximum dry density determined according to ASTM D 698.
    - c. Moisture content within 3 percent of optimum determined according to ASTM D 698
  - 2. Cement-stabilized sand.
    - a. Maximum lift thickness determined by Contractor to achieve uniform placement and required compaction, but not exceeding 24 inches.
    - b. Compaction by vibratory equipment to a minimum of 95 percent of the maximum dry density determined according to ASTM D 558.
    - c. Moisture content on the dry side of optimum determined according to ASTM D 558 but sufficient for cement hydration.
  - 3. Select fill.
    - a. Maximum 6-inches compacted thickness.
    - b. Compaction by equipment providing tamping or kneading impact to a minimum of 95 percent of the maximum dry density determined according to ASTM D 698.
    - c. Moisture content within 2 percent of optimum determined according to ASTM D 698.
- G. For trench excavations outside pavements, a random backfill of suitable material may be used in the trench zone.
  - 1. Fat clays (CH) may be used as trench zone backfill outside paved areas at the Contractor's option. If the required density is not achieved, the Contractor, at his option and at no additional cost to the City, may use lime stabilization to achieve compaction requirements or use a different suitable material.
  - 2. Maximum 9-inch compacted lift thickness for clayey soils and maximum 12-inch lift thickness for granular soils.
  - 3. Compact to a minimum of 90 percent of the maximum dry density determined according to ASTM D 698.
  - 4. Moisture content as necessary to achieve density.
- H. For electric conduits, remove formwork used for construction of conduits before placing trench zone backfill.

3.10 MANHOLES, JUNCTION BOXES, AND OTHER PIPELINE STRUCTURES

- A. Meet the requirements of adjoining utility installations for backfill of pipeline structures, as shown on the Drawings.

3.11 FIELD QUALITY CONTROL

- A. Test for material source qualifications as defined in Section 31 23 23.13 - Utility Backfill Materials.
- B. Provide excavation and trench safety systems at locations and to depths required for testing and retesting during construction at no additional cost to Owner.
- C. Tests will be performed on a minimum of three different samples of each material type for plasticity characteristics, in accordance with ASTM D 4318, and for gradation characteristics, in accordance with Tex-101-E and Tex-110-E. Additional classification tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- D. At least three tests for moisture density relationships will be performed initially for backfill materials in accordance with ASTM D 698, and for cement- stabilized sand in accordance with ASTM D 558. Additional moisture-density relationship tests will be performed whenever there is a noticeable change in material gradation or plasticity.
- E. In place density tests of compacted pipe foundation, embedment and trench zone backfill soil materials will be performed according to ASTM D 1556, or ASTM D 2922 and ASTM D 3017, and at the following frequencies and conditions.
  - 1. A minimum of one test for every 20 cubic yards of compacted embedment and for every 50 cubic yards of compacted trench zone backfill material.
  - 2. A minimum of three density tests for each full shift of Work.
  - 3. Density tests will be distributed among the placement areas. Placement areas are: foundation, bedding, haunching, initial backfill and trench zone.
  - 4. The number of tests will be increased if inspection determines that soil type or moisture content are not uniform or if compacting effort is variable and not considered sufficient to attain uniform density, as specified.
  - 5. Density tests may be performed at various depths below the fill surface by pit excavation. Material in previously placed lifts may therefore be subject to acceptance/rejection.

6. Two verification tests will be performed adjacent to in-place tests showing density less than the acceptance criteria. Placement will be rejected unless both verification tests show acceptable results.
  7. Recompacted placement will be retested at the same frequency as the first test series, including verification tests.
- F. Recondition, recompact, and retest at Contractor's expense if tests indicate Work does not meet specified compaction requirements. For hardened soil cement with nonconforming density, core and test for compressive strength at Contractor's expense.
- G. Acceptability of crushed rock compaction will be determined by inspection.

3.12 DISPOSAL OF EXCESS MATERIAL

- A. Contractor shall be responsible for disposal of excess materials.

END OF SECTION

**SECTION 31 32 13.16**

**STABILIZED BACKFILL (CEMENT STABILIZED SAND)**

PART 1 GENERAL

1.01 DESCRIPTION

- A. Scope: Furnish all plant, labor, equipment, supervision, and tools for the furnishing and installation of Stabilized Backfill as shown on the Plans and as indicated in other sections of the Technical Specifications.
- B. Work Specified Elsewhere: Related work as called for on Plans or specified elsewhere in this or other Technical Specifications.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

1. No separate payment will be made for Work performed under this Section. Include cost of such work in Contract unit prices for items listed in bid form requiring stabilized backfill material.

1.03 REFERENCES

- A. ASTM C 33 - Standard Specification for Concrete Aggregates (Fine Aggregate).
- B. ASTM C 40 - Standard Test Method for Organic Impurities in Fine Aggregates for Concrete.
- C. ASTM C 94 - Standard Specification for Ready-Mixed Concrete.
- D. ASTM C 123 - Standard Test Method for Lightweight Particles in Aggregate.
- E. ASTM C 142 - Standard Test Method for Clay Lumps and Friable Particles in Aggregates.
- F. ASTM C 150 - Specification for Portland Cement.
- G. ASTM D 558 - Standard Test Method for Moisture-Density Relations of Soil Cement-Mixtures.
- H. ASTM D 1633 - Standard Test Method for Compressive Strength of Molded Soil-Cement Cylinders.
- I. ASTM D 2487 - Standard Test Method for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- J. ASTM D 3665 - Standard Practice for Random Sampling of Construction Materials.
- K. ASTM D 4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 - Submittal Procedures.
- B. Submit proposed target cement content and production data for sand-cement (native soil/manufactured materials-cement) mixture in accordance with requirements of Paragraph 2.03.

1.05 DESIGN REQUIREMENTS

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- A. Cement Stabilized Sand: Use sand-cement mixture producing minimum unconfined compressive strength of 100psi in 48 hours and 500psi at 28-days.
  - 1. Design will be based on strength specimens molded in accordance with ASTM D 558 at moisture content within 3 percent of optimum and within 4 hours of batching.
  - 2. Determine minimum cement content from production data and statistical history. Provide no less than 1.5 sacks of cement per cubic yard of dry sand.
  
- B. Flowable Backfill: Flowable backfill shall consist of a mixture of native soils or manufactured materials, cement and/or fly ash, and water which produces a material with unconfined compressive strength of 300psi at 28-days.
  - 1. Any materials used shall be primarily granular, with a plasticity index <12 and with 100% passing a ¾-in. sieve.
  - 2. The flowable mixture shall be mixed in a pug mill, concrete mixer, or transit mixer and shall have a minimum slump of 5-in.
  - 3. The flowable mixture must be allowed to set prior to the placement of any overlying material.
  - 4. Design will be based on strength specimens molded in accordance with ASTM D 558 at moisture content within 3 percent of optimum and within 4 hours of batching.
  
- C. Modified Flowable Backfill: Modified flowable backfill in areas of possible future excavation such as utility installations shall consist of a mixture of native soils or manufactured materials, cement and/or fly ash, air-entraining material, and water which produces a material with unconfined compressive strength of between 100psi at 28-days.
  - 1. Modified flowable backfill in permanent areas such as abandoned pipe closures, abutments and embankments shall contain similar materials and shall have an unconfined compressive strength of greater than 150-psi after 28 days.
  - 2. Any materials used shall be primarily granular, with a plasticity index <12 and with 100% passing a ¾-in. sieve.
  - 3. The flowable mixture shall be mixed in-a pug mill, concrete mixer, or transit mixer and shall have a minimum slump of 5-in. The flowable mixture must be allowed to set prior to the placement of any overlying material.
  - 4. Design will be based on strength specimens molded in accordance with ASTM D 558 at moisture content within 3 percent of optimum and within 4 hours of batching.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Cement: Type I Portland cement conforming to ASTM C 150.
  
- B. Sand: Clean, durable sand meeting grading requirements for fine aggregates of ASTM C 33, or requirements for bank run sand of Section 31 23 23.13 - Utility Backfill Materials, and the following requirements:
  - 1. Classified as SW, SP, SW-SM, SP-SM, or SM by United Soil Classification System of ASTM D 2487.

2. Deleterious materials:
    - a. Clay lumps, ASTM C 142; less than 0.5 percent.
    - b. Deleterious material, less than 2.0 percent.
    - c. Material removed by decantation; less than 5.0 percent.
    - d. Organic impurities, ASTM C 40, color no darker than standard color.
  3. Plasticity index of 4 or less when tested in accordance with ASTM D 4318.
  4. Flowable Fill Backfill and Modified Flowable Backfill Material: Any materials used shall be primarily granular, with a plasticity index <12 and with 100% passing a  $\frac{3}{4}$ -in. sieve.
- C. Water: Potable water, free of oils, acids, alkalies, organic matter or other deleterious substances, meeting requirements of ASTM C 94.

## 2.02 MIXING MATERIALS

- A. Add required amount of water and mix thoroughly in pugmill-type mixer.
- B. Stamp batch ticket at plant with time of loading. Reject material not placed and compacted within 4 hours after mixing.

## 2.03 MATERIAL QUALIFICATION

- A. Determine target cement content of material as follows:
  1. Obtain samples of stabilized backfill material at production facility representing range of cement content consisting of at least three points.
  2. Complete molding of samples within 4 hours after addition of water.
  3. Perform strength tests (average of two specimens) at 48 hours and 7 days.
  4. Perform cement content tests on each sample.
  5. Perform moisture content tests on each sample.
  6. Plot average 48-hour strength vs. cement content.
  7. Record scale calibration date, sample date, sample time, molding time, cement feed dial settings, and silo pressure (if applicable).
- B. Test raw sand for following properties at point of entry into pug-mill:
  1. Gradation
  2. Plasticity index
  5. Organic impurities
  6. Clay lumps and friable particles
  5. Lightweight pieces

- 6. Moisture content
- 7. Classification
- C. Present data obtained in format similar to that provided in sample data form attached to this Section.
- D. The target content may be adjusted when statistical history so indicates. For determination of minimum product performance use formula:

$$f_c \% \frac{1}{2} \text{ standard deviation}$$

### PART 3 EXECUTION

#### 3.01 PLACING

- A. Place stabilized backfill material in maximum 8-inch-thick loose lifts and compact to 95 percent of maximum density as determined in accordance with ASTM D 558, unless otherwise specified. Refer to related specifications for thickness of lifts in other applications. Target moisture content during compaction is -3 to 0 percent of optimum. Perform and complete compaction of stabilized backfill material within 4 hours after addition of water to mix at plant.
- B. Do not place or compact stabilized backfill material in standing or free water.

#### 3.02 FIELD QUALITY CONTROL

- A. Testing will be performed under provisions of Section 01 45 29 - Testing Laboratory Services.
- B. Samples of delivered product will be taken in field at point of delivery for testing in accordance with ASTM D 3665.
- C. Prepare and mold four specimens (for each sample obtained) in accordance with ASTM D 558, Method A, without adjusting moisture content. Samples will be molded at approximately same time material is being used, but no later than 4 hours after water is added to mix. Test two sample sets a minimum of every 50 square yards placed or for that days placement.
- D. After molding, specimens will be removed from molds and sealed in plastic bag or similar material to minimize moisture loss. Specimens will be cured at room temperature between 60 and 80 degrees F until tested.
- E. Specimens will be tested for compressive strength in accordance with ASTM D 1633, Method A. Two specimens will be tested at 48 hours plus or minus 2 hours and two specimens will be tested at 7 days plus or minus 4 hours.
- F. A strength test will be average of strengths of two specimens molded from same sample of material and tested at same age. Average daily strength will be average of strengths of all specimens molded during one day's production and tested at same age.

- G. Precision and Bias: Test results shall meet recommended guideline for precision in ASTM D 1633 Section 9.
- H. Reporting: Test reports shall contain, as a minimum, the following information:
  - 1. Supplier and plant number
  - 2. Time material was batched
  - 3. Time material was sampled
  - 4. Test age (exact hours)
  - 5. Average 48-hour strength
  - 6. Average 7-day strength
  - 7. Specification section number
  - 8. Compliance / non-compliance
  - 9. Mixture identification
  - 10. Truck and ticket numbers
  - 11. The time of molding
  - 12. Moisture content at time of molding
  - 13. Required strength
  - 14. Test method designations
  - 15. Compressive strength data as required by ASTM D 1633

### 3.03 ACCEPTANCE

- A. Strength level of material will be considered satisfactory if:
  - 1. The average 48-hour strength is greater than 75-percent of the design strength with no individual strength test below 50-percent of the design strength.
- B. Material will be considered deficient when 7-day individual strength test (average of two specimens) is less than 75-percent of the design strength. See Paragraph 3.04 Adjustment for Deficient Strength.
- C. The material will be considered unacceptable and subject to removal and replacement at Contractor's expense when individual strength test has 7-day strength less than 75-percent of the design strength.
- D. When moving average of three daily 48-hour averages falls below 75-percent of the design strength, discontinue shipment to project until plant is capable of producing material, which exceeds 75-percent of the design strength at 48 hours. Total of five 48-hour strength tests shall be made in this determination with no individual strength tests less than 75-percent of the design strength.
- E. Testing laboratory shall notify Contractor, Owner, and material supplier by facsimile of tests indicating results falling below specified strength requirements.

### 3.04 ADJUSTMENT FOR DEFICIENT STRENGTH

- A. When mixture produces 48-hour compressive strength less than 75-percent of the design strength, then Contractor has option to remove and replace material or request that Owner have second set of samples broken at 7 days.
- B. When mixture produces 7-day compressive strength greater than or equal 75-percent of the design strength, then material will be considered satisfactory and bid price will be paid in full.
- C. When mixture produces 7-day compressive strength less than 75-percent of the design strength and greater than or equal to 50-percent of the design strength, material shall be accepted contingent on credit in payment. Compute credit by the following formula:

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$$\text{Credit per Cubic Yard} = \frac{\$30.00 \times 2 (100 \text{ psi} - \text{Actual psi})}{100}$$

- D. When mixture produces 7-day compressive strength less than 50-percent of the design strength, then remove and replace stabilized backfill material and paving and other necessary work at no cost to Owner.

END OF SECTION

**SECTION 31 32 19.16  
GEOTEXTILE**

**PART 1 GENERAL**

**1.01 REFERENCES**

A. The following is a list of standards that may be referenced in this section:

1. ASTM International (ASTM):
  - a. D737, Standard Test Method for Air Permeability of Textile Fabrics.
  - b. D4355, Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus.
  - c. D4491, Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
  - d. D4533, Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
  - e. D4595, Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.
  - f. D4632, Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
  - g. D4716, Test Method for Determining the (In-Plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
  - h. D4751, Standard Test Method for Determining Apparent Opening Size of a Geotextile.
  - i. D4833, Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
  - j. D4884, Standard Test Method for Strength of Sewn or Thermally Bonded Seams of Geotextiles.
  - k. D4886, Standard Test Method for Abrasion Resistance of Geotextiles (Sand Paper/Sliding Block Method).
  - l. D5199, Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.
  - m. D5261, Standard Test Method for Measuring Mass per Unit Area of Geotextiles.
  - n. D6193, Standard Practice for Stitches and Seams.

**1.02 DEFINITIONS**

- A. Fabric: Geotextile, a permeable geosynthetic comprised solely of textiles.
- B. Maximum Average Roll Value (MaxARV): Maximum of series of average roll values representative of geotextile furnished.
- C. Minimum Average Roll Value (MinARV): Minimum of series of average roll values representative of geotextile furnished.
- D. Nondestructive Sample: Sample representative of finished Work, prepared for testing without destruction of Work.
- E. Overlap: Distance measured perpendicular from overlapping edge of one sheet to underlying edge of adjacent sheet.
- F. Seam Efficiency: Ratio of tensile strength across seam to strength of intact geotextile, when tested according to ASTM D4884.

1.03 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:
  - a. Manufacturer material specifications and product literature.
  - b. Installation drawings showing geotextile sheet layout, location of seams, direction of overlap, and sewn seams.
  - c. Description of proposed method of geotextile deployment, sewing equipment, sewing methods, and provisions for holding geotextile temporarily in place until permanently secured.
2. Samples:
  - a. Geotextile: One-piece, minimum 18 inches long, taken across full width of roll of each type and weight of geotextile furnished for Project. Label each with brand name and furnish documentation of lot and roll number from which each Sample was obtained.
  - b. Field Sewn Seam: 5-foot length of seam, 12 inches wide with seam along center, for each type and weight of geotextile.
  - c. Securing Pin and Washer: One each.

B. Informational Submittals:

1. Certifications from each geotextile manufacturer that furnished products have specified property values. Certified property values shall be either minimum or maximum average roll values, as appropriate, for geotextiles furnished.
2. Field seam efficiency test results.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver each roll with sufficient information attached to identify it for inventory and quality control.
- B. Handle products in manner that maintains undamaged condition.
- C. Do not store products directly on ground. Ship and store geotextile with suitable wrapping for protection against moisture and ultraviolet exposure. Store geotextile in way that protects it from elements. If stored outdoors, elevate and protect geotextile with waterproof cover.

1.05 SCHEDULING AND SEQUENCING

- A. Where geotextile is to be laid directly upon ground surface, prepare subgrade as specified in Section 31 23 13, Subgrade Preparation, first.
- B. Notify Engineer whenever geotextiles are to be placed. Do not place geotextile without Engineer's approval of underlying materials.

**PART 2 PRODUCTS**

2.01 NONWOVEN GEOTEXTILE

- A. Stabilization Geotextile – The geotextile component of the MSL shall be TriAx TX5 or TX7 and shall be integrally formed and produced from a punched sheet of polypropylene, which is then oriented in three substantially equilateral directions. The resulting ribs shall have a high degree of molecular orientation, which continues at least in part through the mass of the integral nodes.
- B. The resulting geotextile structure shall have apertures that are triangular in shape, and shall have ribs with a depth-to-width ratio greater than 1.0.

- C. The geotextile shall have the nominal characteristics shown in the table below, and shall be certified in writing by the manufacturer to be the product shown on the contract drawings and incorporated in the MSL design by the Engineer:

Properties	TX5			General
	Longitudinal	Diagonal	Transverse	
Rib pitch, mm (in)	40 (1.60)	40 (1.60)	-	
Mid-rib depth, mm (in)	-	1.3 (0.05)	1.2 (0.05)	
Mid-rib width, mm (in)	-	0.9 (0.04)	1.2 (0.05)	
Rib shape				rectangular
Aperture shape				triangular

Properties	TX7			General
	Longitudinal	Diagonal	Transverse	
Rib pitch, mm (in)	40 (1.60)	40 (1.60)	-	
Mid-rib depth, mm (in)	-	2.0 (0.08)	1.6 (0.06)	
Mid-rib width, mm (in)	-	1.0 (0.04)	1.3 (0.05)	
Rib shape				rectangular
Aperture shape				triangular

- B. Alternate Structural Soil Reinforcement Materials – Alternate structural soil reinforcement materials will be considered if submitted at least 15 days prior to bid letting in accordance with the following conditions:
1. Geotextile materials shall not be considered as an alternate to geotextile materials for subgrade improvement or base/subbase reinforcement applications. A geotextile may be used in the cross-section to provide separation, filtration or drainage; however, no structural contribution shall be attributed to the geotextile.
  2. Alternate geotextile materials shall not be used unless submitted to and pre-approved in writing by the Engineer. Consideration of alternate geotextile products will not be evaluated based solely upon index and strength properties outlined in Section 2.02.A. In the event that material index properties of an alternate product do not satisfy the requirements set forward in this specification, then a separate design incorporating the alternate geotextile product must be submitted for approval by the Engineer. Submittal packages for alternate geotextile materials must be in the form of an engineered design certified by a licensed professional engineer. Submittal must include, but not limited to, the following items:
    - a. Design pavement/unpaved surface typical section including the alternate geotextile product
    - b. Letter summary of the alternate design describing the basis for design sealed by a licensed professional engineer.
    - c. Research documentation of relevant and comparable full-scale evidence which quantifies the performance of the alternate geotextile material with repetitive loading applied by a passing wheel load of at least 4,500 pounds per single wheel or 9,000 pounds per dual wheel.
    - d. A list of 5 comparable projects that are similar in terms of size and application, are located in the United States, and where the results of using the specific alternate geotextile material can be verified after a minimum of 1 year of service life.
    - e. A sample (meeting the requirements of sub-part 1.05A of this Section) of the alternate geotextile material and certified specification sheets.
    - f. Recommended installation instructions.

2.02 SECURING PINS

- A. Steel Rods or Bars:
  - 1. 3/16-inch diameter.
  - 2. Pointed at one end.
  - 3. With head on other end sufficiently large to retain washer.
  - 4. Minimum Length: 12 inches.
- B. Steel Washers for Securing Pins:
  - 1. Outside Diameter: Not less than 1.5 inches.
  - 2. Inside Diameter: 1/4 inch.
  - 3. Thickness: 1/8 inch.
- C. Steel Wire Staples:
  - 1. U-shaped.
  - 2. 10 gauge.
  - 3. Minimum Length: 6 inches.

**PART 3 EXECUTION**

3.01 LAYING GEOTEXTILE

- A. Lay and maintain geotextile smooth and free of tension, folds, wrinkles, or creases.

3.02 SHEET ORIENTATION ON SLOPES

- A. Orient geotextile with long dimension of each sheet parallel to direction of slope.

3.03 JOINTS

- A. Unseamed Joints:
  - 1. Overlapped as per manufacture recommendations.
- B. Sewn Seams: Made wherever stress transfer from one geotextile sheet to another is necessary. Sewn seams, as approved by Engineer, also may be used instead of overlap at joints for applications that do not require stress transfer.
  - 1. Seam Efficiency:
    - a. Minimum 70 percent.
    - b. Verified by preparing and testing minimum of one set of nondestructive Samples per acre of each type and weight of geotextile installed.
    - c. Tested according to ASTM D4884.
  - 2. Types:
    - a. Preferred: "J" type seams.
    - b. Acceptable: Flat or butterfly seams.
  - 3. Stitch Count: Minimum three to maximum seven stitches per inch.
  - 4. Stitch Type: Double-thread chainstitch according to ASTM D6193.
  - 5. Sewing Machines: Capable of penetrating four layers of geotextile.
  - 6. Stitch Location: 2 inches from geotextile sheet edges, or more, if necessary to develop required seam strength.

**3.04 SECURING GEOTEXTILE**

- A. Secure geotextile during installation as necessary with sandbags or other means approved by Engineer.
- B. Secure Geotextile with Securing Pins or Staples:
  - 1. Insert securing pins with washers through geotextile.
  - 2. Securing Pin Alignment:
    - a. Midway between edges of overlaps.
    - b. 6 inches from free edges.
  - 3. Spacing of Securing Pins:

<b>Slope</b>	<b>Maximum Pin Spacing</b>
Steeper than 3:1	2 feet
3:1 to 4:1	3 feet
Flatter than 4:1	5 feet

- 4. Install additional pins across each geotextile sheet as necessary to prevent slippage of geotextile or to prevent wind from blowing geotextile out of position.
- 5. Push each securing pin through geotextile until washer bears against geotextile and secures it firmly to subgrade.
- 6. Where staples are used instead of securing pins, install in accordance with alignment and spacing above. Push in to secure geotextile firmly to subgrade.

**3.05 PLACING PRODUCTS OVER GEOTEXTILE**

- A. Before placing material over geotextile, notify Engineer. Do not cover installed geotextile until after Engineer provides authorization to proceed.
- B. If tears, punctures, or other geotextile damage occurs during placement of overlying products, remove overlying products as necessary to expose damaged geotextile. Repair damage as specified in Article Repairing Geotextile.

**3.06 INSTALLING GEOTEXTILE IN TRENCHES**

- A. Place geotextile in a way to completely envelope granular drain material to be placed in trench and with specified overlap at joints. Overlap geotextile in direction of flow. Place geotextile in a way and with sufficient slack for geotextile to contact trench bottom and sides fully when trench is backfilled.
- B. After granular drain material is placed to required grade, fold geotextile over top of granular drain material, unless otherwise shown. Maintain overlap until overlying fill or backfill is placed.

**3.07 REPAIRING GEOTEXTILE**

- A. Repair or replace torn, punctured, flawed, deteriorated, or otherwise damaged geotextile.
- B. Repair Procedure:
  - 1. Place patch of undamaged geotextile over damaged area and at least 18 inches in all directions beyond damaged area.
  - 2. Remove interfering material as necessary to expose damaged geotextile for repair.
  - 3. Sew patches or secure them with heat fusion tacking or with pins and washers, as specified above in Article Securing Geotextile, or by other means approved by Engineer.

3.08 REPLACING CONTAMINATED GEOTEXTILE

- A. Protect geotextile from contamination that would interfere, in Engineer's opinion, with its intended function. Remove and replace contaminated geotextile with clean geotextile.

END OF SECTION 31 32 19.16

**SECTION 31 34 19.13**  
**GEOGRID SOIL REINFORCEMENT**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

The geogrid shall be manufactured from a punched polypropylene sheet, which is then oriented in three substantially equilateral directions so that the resulting ribs have a high degree of molecular orientation, which continues at least in part through the mass of the integral node. For pavement sections, where indicated in the drawings, geogrid shall be placed between the finished subgrade and the crushed limestone aggregate base course.

**1.02 MATERIALS**

<u>Geogrid Index Properties</u>	<u>Longitudinal</u>	<u>Diagonal</u>	<u>Transverse</u>	<u>General</u>
Rib pitch	1.6 in.	1.60 in.	n/a	n/a
Mid-rib depth	n/a	0.06 in.	0.05 in.	n/a
Mid-rib width	n/a	0.04 in.	0.04 in.	
Rib shape	n/a	n/a	n/a	rectangular
Aperture shape.	n/a	n/a	n/a	triangular

Products: TriAx TX5 Geogrid by Tensar International, or approved equal.

**1.03 CONSTRUCTION METHODS**

Subgrade shall be lime-treated, compacted, shaped and approved by the engineer. Geogrid shall be placed flat upon approved subgrade in strict accordance with manufacturer's recommendations. Adjoining geogrid mats shall be overlapped by a minimum 24 inches. Crushed limestone aggregate base course materials shall be placed and compacted directly upon the geogrid mats.

END OF SECTION

**SECTION 31 41 00  
SHORING**

**PART 1 GENERAL**

1.01 SUBMITTALS

A. Informational Submittals:

1. Excavation support plan.
2. Movement monitoring plan.
3. Trench excavation plan.
4. Movement measurement and data and reduced results indicating movement trends.

1.02 QUALITY ASSURANCE

- A. Provide surveys to monitor movements of critical facilities.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION**

3.01 GENERAL

- A. Design, provide, and maintain shoring, sheeting, and bracing as necessary to support the sides of excavations and to prevent detrimental settlement and lateral movement of existing facilities, adjacent property, and completed the Work.

3.02 **[A: EXCAVATION SUPPORT PLAN] [B: TRENCH EXCAVATION PLAN]**

- A. Prepare **[A: excavation support] [B: trench excavation]** plan addressing following topics:
1. Details of shoring, bracing, sloping, or other provisions for worker protection from hazards of caving ground.
  2. Design assumptions and calculations.
  3. Methods and sequencing of installing excavation support.
  4. Proposed locations of stockpiled excavated material.
  5. Minimum lateral distance from the crest of slopes for vehicles and stockpiled excavated materials.
  6. Anticipated difficulties and proposed resolutions.

3.03 MOVEMENT MONITORING PLAN

- A. Prepare movement monitoring plan addressing following topics:
1. Survey control.
  2. Location of monitoring points.
  3. Plots of data trends.
  4. Interval between surveys.

3.04 REMOVAL OF EXCAVATION SUPPORT

- A. Remove excavation support in a manner that will maintain support as excavation is backfilled.
- B. Do not begin to remove excavation support until support can be removed without damage to existing facilities, completed Work, or adjacent property.
- C. Remove excavation support in a manner that does not leave voids in the backfill.

3.05 TRENCHES

- A. Provide trench excavations exceeding 4 feet in depth with adequate safety systems meeting the requirements of the Washington Industrial Safety and Health Act, Chapter 49.17 RCW.
- B. For trench excavation exceeding 5 feet in depth, provide adequate safety system meeting requirements of California Labor Code Section 6707, applicable local construction safety orders, and federal requirements.
- C. For trench excavation exceeding 5 feet in depth, provide adequate safety system meeting requirements of applicable state and local construction safety orders, and federal requirements.

**END OF SECTION**

**SECTION 32 01 00**

**PAVEMENT REPAIR AND RESURFACING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Repairing and resurfacing streets, highways, driveways, sidewalks, and other pavements that have been cut, broken, or otherwise damaged during construction.

**1.02 DELETED**

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Subgrade:
  - 1. Provide backfill material as required by applicable excavation and fill sections of Section 31 23 16.16 - Excavation & Backfill for Structures
  - 2. Provide material for stabilization as required by applicable portions of Section 32 11 13.13 - Lime Treatment for Subgrade and/or Section 31 32 13.16 – Cement Stabilized Sand, as applicable.
- B. Base: Provide base material as required by applicable portions of Section 32 12 16.13 - Hot Mix Asphaltic Concrete and Section 32 11 23 - Crushed Limestone Flexible Base.
- C. Pavement: Provide paving materials as required by applicable portions of Section 32 12 16.13 - Hot Mix Asphaltic Concrete, Section 32 13 13 - Concrete Paving and Section 32 16 00 - Concrete Curb and Gutter, Driveways, and Sidewalks.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Conform to requirement of Section 02 41 00 - Demolition, for removals existing pavements and structures.
- B. Saw cut pavement 18 inches wider than width of trench needed to install utilities unless otherwise indicated on Drawings.
- C. Protect edges of existing pavement to remain from damage during removals, utility placement, backfill, and paving operations. For concrete pavement, leave and protect minimum of 18 inches of undisturbed subgrade on each side of trench to support replacement slab.

3.02 INSTALLATION

- A. Parking Areas, Service Drives, Driveways, and Sidewalks: Replace with material equal to or better than existing or as indicated on Drawings. Conform to applicable requirements of sections referenced in Paragraph 2.01, Materials.
- B. Street Pavements and Curbs, Curbs and Gutters: Replace subgrade, base, and surface course with like materials or as indicated on Drawings. Curbs and curbs and gutters shall match existing. Conform to requirements of sections referenced in Paragraph 2.01, Materials.
- C. For concrete pavement, install size and length of reinforcing steel and pavement thickness indicated on Drawings. Place types and spacing of joints to match existing or as indicated on Drawings.
- D. Where existing pavement consists of concrete pavement with asphaltic surfacing, resurface with minimum 2-inch depth asphaltic pavement.
- E. Repair State highway crossings in accordance with TxDOT permit and within 1 week after utility work is installed.

3.03 WASTE MATERIAL DISPOSAL

- A. Dispose of waste material in accordance with local and state laws and the responsibility of the Contractor.

3.04 PROTECTION

- A. Maintain pavement in good condition until completion of the Work.
- B. Replace damaged pavement.

END OF SECTION

**SECTION 32 11 13.13**

**LIME TREATMENT FOR SUBGRADE**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

This item shall consist of treating the existing subgrade, base, and pavement by the pulverizing, addition of lime, mixing, and compacting the mixed material to the required density. This item applied to natural ground, embankment, or existing pavement structure and shall be constructed as specified herein and in conformity with the typical sections, lines, and grades as shown on the plans or as established by the Engineer.

**1.02 MATERIALS**

1. The lime shall meet the requirements of the Item, "Lime Slurry", for the type of specified.

When Type B, Commercial Lime Slurry, is specified, the Contractor shall select, prior to construction, the class to be used and shall notify the Engineer in writing before changing from one class to another.

2. If the minimum design strength or percent of lime to be used for the treatment subgrade, existing subbase, or existing base is specified, it will be determined by preliminary tests performed in accordance with Test Method Tex-121-E. The percentage lime test (lime curve) is to be conducted by an approved testing laboratory prior to the addition of lime to the subgrade. A soil sample shall be made available to the testing laboratory at least ten days prior to application. The lime percentage (lime curve) test shall be paid for by the Contractor. The bid schedule is based on 6 inches of 6% lime stabilization in tons. If the lime percentage tests show that less than 6% is to be used then the contractor shall notify the engineer of the overage in writing.

**1.03 EQUIPMENT**

1. The machinery, tools, and equipment necessary for proper execution of the work shall be on the project and approved by the Engineer prior to the beginning of construction operations.

All machinery, tools, and equipment used shall be maintained in a satisfactory and workmanlike manner.

2. Hydrated lime shall be stored and handled in closed weatherproof containers until immediately before distribution on the road. If storage bins are used they shall be completely enclosed. Hydrated lime in bags shall be stored in weatherproof buildings with adequate protection from ground dampness.
3. If lime is furnished in trucks, each truck shall have the weight of lime certified on public scales.
4. If lime is furnished in bags, each bag shall bear the manufacturer's certified weight. Bags varying more than 5 percent from that weight may be rejected and the average weight of bags in any shipment, as shown by weighing 50 bags taken at random, shall not be less than the manufacturer's certified weight.

1.04 CONSTRUCTION METHODS

1. General. It is the primary requirement of this specification to secure a completed course of treated material containing a uniform lime mixture, free from loose, or segregated areas, of uniform density and moisture content, well bound for its full depth and with a smooth surface suitable for placing subsequent courses. It shall be the responsibility of the Contractor to regulate the sequence of his work, to use the proper amount of lime, maintain the work and rework the courses as necessary to meet the above requirements.

The roadbeds shall be constructed and shaped to conform to the typical sections, lines and grades as shown on the plans or as established by the Engineer. The material, either before or after lime is added, shall be excavated to the secondary grade (proposed bottom of lime treatment) and removed or windowed to expose the secondary grade. Any wet or unstable materials below the secondary grade shall be corrected, as directed by the Engineer, by scarifying, adding lime, and compacting, or other methods until satisfactory stability is obtained.

If the Contractor elects to use a cutting and pulverizing machine that will remove the subgrade material accurately to the secondary grade and pulverize the material at the same time, he will not be required to expose the secondary grade nor window the material. However, the Contractor shall be required to roll the subgrade, as directed by the Engineer, before using the pulverizing machine and correct any soft areas that this rolling may reveal. This methods will be permitted only where a machine is provided which will insure that the material is cut uniformly to the proper depth and which has cutters that will plane the secondary grade to a smooth surface over the entire width of the cut. The machine shall be of such design that a visible indication is given at all times that the machine is cutting to the proper depth.

2. Application. Lime shall be spread only on that area where the first mixing operations can be completed during the same working day.

The application and mixing of lime with the material shall be accomplished by the methods hereinafter described as “Dry Placing” or “Slurry Placing”. When Type A, Hydrated Lime, is specified, the Contractor may use either method, unless otherwise noted on the plans.

- a. Dry Placing. The lime shall be spread by an approved spreader or by bag distribution at the rates shown on the plans or as directed by the Engineer.

The lime shall be distributed at a uniform rate and in such manner as to reduce the scattering of lime by wind to a minimum. Lime shall not be applied when wind conditions, in the opinion of the Engineer, are such that blowing lime becomes objectionable to traffic or adjacent property owners. A motor grader shall not be used to spread the lime.

The material shall be sprinkled as directed by the Engineer, until the proper moisture content has been secured.

- b. Slurry Placing. When Type A, Hydrated Lime, is specified and slurry placement is to be used, the Type A Hydrated shall be mixed with water to form a slurry of the solids content designated by the Engineer.

Where Type B, Commercial Lime Slurry is to be used, it shall be of the minimum solids and purity for the applicable grade being used. The distribution of lime at the rates shown on the plans or as directed by the Engineer shall be attained by successive passes over a measured section of roadway until the proper moisture and lime content has been secured.

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3. Mixing. The mixing procedure shall be the same for “Dry Placing” or Slurry Placing” as herein described.

The material and lime shall be thoroughly mixed by approved road mixers or other approved equipment, and the mixing continued until, in the opinion of the Engineer, a homogeneous friable mixture of material and lime is obtained, such that when all non-slaking aggregates retained on the 3/4” sieve are removed, the remainder of the material shall meet that following requirements when tested from the roadway in the roadway condition by laboratory sieves:

	<u>Percent</u>
Minimum passing 1 - 3/4” sieve.....	100%
Minimum passing 3/4” sieve.....	85%

The soil-lime mixture shall be sprinkled during the mixing operation as directed by the Engineer to provide optimum moisture in the mixing.

During the interval of time between application and mixing, hydrated lime that has been exposed to the open air for a period of 6 hours or more or has had excessive loss due to washing or blowing will not be accepted for payment.

4. Compaction. Compaction of the mixture shall begin immediately after final mixing unless approval is obtained from the Engineer. The material shall be aerated or sprinkled as necessary to provide the optimum moisture. Compaction shall begin at the bottom and shall continue until the entire depth of mixture is uniformly compacted by the method of compaction hereinafter specified as the “Density Control” method as indicated on the plans.

If the total thickness of the material to be treated cannot be mixed in one operation, the previously mixed material shall be bladed to a window just beyond the area to be treated and the next layer mixed with lime as specified in Section (3). The first layer of the treated material shall be compacted in such a manner that the treated material will not be mixed with the underlying material.

When the “Density Control” method of compaction is indicated on the plans the following provisions shall apply:

The course shall be sprinkled as required and compacted to the extent necessary to provide the density specified below as determined by the use of the compaction ratio method:

<u>Description</u>	<u>Density, Percent (Standard Proctor)</u>
For lime treated subgrade, existing subbase or existing base that will receive subsequent on the subbase or base courses.	Not less than 95 except when otherwise shown on plans.
For lime treated existing subgrade or existing base that will receive plans.	Not less than 98 except when otherwise shown on the surface courses.

In addition to the requirements specified for density, the full depth of the material shown on the plans shall be compacted to the extent necessary to remain firm and stable under construction equipment. After each section is completed, tests as necessary will be made by the Engineer. If the material fails to meet the density requirements, it shall be reworked as necessary to meet these requirements. Throughout this entire operation the shape of the course shall be maintained by blading, and the surface upon completion shall be smooth and in conformity with the typical

section shown on the plans and to the established lines and grades. Should the material, due to any reason or cause, lose the required stability, density, and finish before the next course is placed or the work is accepted, it shall be reprocessed and refinished at the expense of the Contractor.

1.05 FINISHING, CURING, & PREPARATION FOR SURFACING

After the final layer of the lime treated subgrade, subbase or base has been compacted, it shall be brought to the required lines and grades in accordance with the typical sections. The completed section shall then be finished by rolling as directed with a pneumatic tire or other suitable roller sufficiently light to prevent hair cracking. The completed section shall be moist-cured for minimum of 7 days before further courses are added or any traffic is permitted, unless otherwise directed by the Engineer. In cases where subgrade treatment or subbase sets up sufficiently to prevent objectionable damage from traffic, such layers may be opened to construction and/or access traffic, and covered by other courses, the day following compaction, unless otherwise directed by the Engineer. If the plans, provide for the treated material to be sealed or covered by other courses of material, such seal or course shall be applied within 14 days after final mixing is completed, unless otherwise directed by the Engineer.

1.06 MEASUREMENT AND PAYMENT

Lime treatment of the subgrade, existing subbase, existing base, and salvage pavement and base shall be measured by the square yard to the lines shown on the typical sections.

When Type A, Hydrated Lime is used, the quantity of lime be measured by the ton of 2,000 pounds, dry weight.

When Type B, Commercial Lime Slurry is used, the quantity of lime will be calculated from the required minimum percent solids based upon the use of Grade 1, Grade 2, or Grade 3 as follows:

- Grade 1: The “Dry Solids Content” shall be at least 31% by weight of the slurry and the quantity of lime will be calculated by the ton of 2,000 pounds based on the 31%, as delivered on the road.
- Grade 2: The “Dry Solids Content” shall be at least 35% by weight of the slurry and the quantity of lime will be calculated by the ton of 2,000 pounds based on the 35%, as delivered on the road.
- Grade 3: The “Dry Solids Content” shall be at least 46% by weight of the slurry and the quantity of lime will be calculated by the tone of 2,000 pounds based on the 46%, as delivered on the road.

END OF SECTION

SECTION 32 11 23

CRUSHED LIMESTONE FLEXIBLE BASE

PART 1 GENERAL

1.01 DESCRIPTION

This item shall govern the materials, placement compaction of Crushed Limestone Base to the lines and grades that are shown on the construction drawings. Crushed Limestone Base thickness for various pavement types are shown on the plans.

1.02 MATERIAL

The Crushed Limestone materials shall be as specified by "Item 247 Flexible Base". Texas Department of Transportation, 2014 Standard Specifications for Construction of Highways, Streets, and Bridges shall meet the requirements as follows:

1. Type A: Type A material shall be crushed stone produced from oversize quarried aggregate, sized by crushing and produced from a naturally occurring single source. Crushed gravel or uncrushed gravel shall not be acceptable for Type A material. No blending of sources and/or additive materials will be allowed in Type A material.
2. Triaxial Class 1: Min. compressive strength, 45 at 0 psi lateral pressure and 175 at 15 psi lateral pressure.

RETAINED ON SQUARE SIEVE NUMBER

PERCENT RETAINED

1-3/4" (44 mm)	0
7/8" (22.23 mm)	10-35
3/8" (9.5 mm)	30-50
NUMBER 4 (4.75 mm)	45-65
NUMBER 40 (0.425mm)	70-85

Material passing the Number 40 Sieve shall be known as "Binder Materials" and shall meet the following requirements:

Maximum Liquid Limits (L.L)	=	35
Maximum Plasticity Index (P.I.)	=	10
Wet Ball Mill (max)	=	40
California Bearing Ratio (min.)	=	100

All aggregate retained on the Number 10 Sieve shall be comprised of only crushed limestone.

The Contractor shall not place crushed limestone on the road bed until the Engineer has accepted the shaped and compacted subgrade.

The Contractor must maintain the roadbed free of holes, ruts and depressions and in condition to receive the crushed limestone.

The Contractor upon request shall provide certification that the material supplied meets the above requirements prior to delivery to the job site. Samples for testing of the material must be taken prior to the compaction operations.

### 1.03 CONSTRUCTION METHODS

The flexible base material shall be placed on the approved subgrade in courses not to exceed six (6) inches compacted depth. It shall be the responsibility of the contractor that the required amount of material be delivered and uniformly spread and shaped. All materials has been cut into the windrows, it shall be sprinkled, spread, shaped, and rolled in proper sequence to prevent segregation and as necessary for required compaction.

The surface on completion shall be smooth and in conformity with typical sections and to the established lines and grades. Any deviation in excess of 1/4 inch in cross-section and in length of 16 feet measured longitudinally shall be corrected.

Flexible base shall be compacted to an apparent dry density of not less than 98 percent of the maximum dry density as determined in accordance with A.S.T.M. Test method D698 (Standard Proctor). Tests for density will be made within 24 hours after compaction operations are completed. If the material fails to meet the density specified, it shall be reworked as necessary to meet the density required. Prior to placing any succeeding course of flexible base or surfacing on a previously completed course the density and moisture of the top three (3) inches of flexible base shall be checked and if the tests show the density to be more than 2 percent below the specified compaction and moisture content, it shall be reworked as necessary the density and moisture required.

The first density and depth test at a specific location will be made by commercial testing laboratory designated by the Owner and said tests shall be paid for the Owner. If the test fails, all other tests at the location shall be paid for by the Contractor, by deducting from the final payment.

END OF SECTION

**SECTION 32 12 13.19**

**PRIME COAT**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

"Prime Coat" shall consist of an application of asphaltic material on the completed base course and/or other approved areas in accordance with these specifications as directed by the Inspector.

**1.02 MATERIALS**

The asphalt material for prime coat shall meet the requirement for Cut-Back Asphalt, MC-30, Item 300, "Asphalt, Oils, and Emulsions" of the Texas Highway Department Standard Specifications 2014 Edition.

**1.03 CONSTRUCTION METHODS**

When, in the opinion of the Inspector, the area and/or base is satisfactory to receive the prime coat, the surface shall be cleaned by sweeping or other approved methods as directed by the Inspector. If directed by the Inspector, the surface shall be lightly sprinkled with water just prior to application of the asphaltic material. The asphaltic material shall be applied on the clean surface by an approved distributor at a rate of 0.2 gallons per square yard of surface, evenly, and smoothly, under a pressure necessary for proper distribution. During the application of prime coat, care shall be taken to prevent splattering of adjacent pavement, curb and gutter or structures.

Prime coat shall not be applied when the air temperature is below 60°F and falling, but may be applied when the air temperature is about 50°F and is rising; the air temperature being taken in the shade and away from artificial heat. Asphaltic material shall not be placed when general weather conditions, in the opinion of the Inspector, are not suitable.

END OF SECTION

**SECTION 32 12 16.13**

**HOT MIX ASPHALTIC CONCRETE PAVEMENT**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

This item shall consist of a base course, a leveling-up course, a surface course, or any combination of these courses as shown on the plans, each to be composed of a compacted mixture of mineral aggregate and asphaltic material.

The pavement shall be constructed on the previously completed and approved subgrade, base, existing pavement, bituminous surface or in the case of a bridge, on the prepared floor slab, as herein specified and in accordance with the details shown on the plans.

**1.02 MATERIAL**

Hot Mix Asphaltic Concrete, Type "D" (Fine graded surface course) (Modified). The hot mix asphaltic concrete shall conform to the requirements of the Texas State Department of Highway & Special Provisions 340-115, with anti-stripping agent in accordance with Special Specifications Item 3373. The successful bidder shall submit an asphalt mix design within ten (10) days upon award of contract from a geotechnical laboratory demonstrating that the hot mix asphaltic concrete to be used meets these specifications. The asphalt to be used shall be A.C. 20. Special Modifications to Standard Specification Item 2\340, for this project are as follows:

1. Asphalt Content. Asphaltic Material (AC-20) shall form from 5.0 to 8.0 percent of the mixture by weight.
2. Retained Stability. The paving mixture shall have a retained stability of not less than 70 percent when tested in accordance with ASTM Standard Procedure D1075.
3. Hveem Stability. Hveem stability shall not be less than 30.
4. Aggregate retained on No. 10 Sieve shall be 100% Crushed Limestone.

**1.03 CONSTRUCTION METHODS**

For Hot Mix Asphaltic Concrete Pavement being placed on Flexible Base Material: When the area and/or base is satisfactory to receive the prime coat, the surface shall be cleaned by sweeping or other approved methods as directed by the Inspector. If directed by the Inspector, the surface shall be lightly sprinkled with water just prior to application of the asphaltic material. The asphaltic material shall be applied on the clean surface by an approved distributor at a rate of 0.2 gallons per square yard of surface, evenly, and smoothly, under a pressure necessary for proper distribution.

For Hot Mix Asphaltic Concrete Pavement being placed on Existing HMA Material: When the existing pavement is satisfactory to receive the tack coat, the surface shall be cleaned by sweeping or other approved methods as directed by the Inspector. The asphaltic material shall be applied on the clean surface by an approved distributor at a rate not to exceed 0.11 or below 0.05 gallons per square yard of surface, evenly, and smoothly, under a pressure necessary for proper distribution.

During the application of Prime and Tack coat, care shall be taken to prevent splattering of adjacent curb and gutter or structures. Prime and Tack coat shall not be applied when the air temperature is below 60°F

and falling, but may be applied when the air temperature is about 50°F and is rising; the air temperature being taken in the shade and away from artificial heat. Asphaltic material shall not be placed when general weather conditions, in the opinion of the Inspector, are not suitable.

Construction methods used in Hot Mix Asphaltic Concrete Pavement shall meet the requirements as set forth in Item 340 "Hot Mix Asphaltic Concrete Pavement" of the DHPT Standard Specification, with the following additions:

If the temperature of the asphaltic mixture of a load of any part of a load becomes less than 225°F or more than 350°F after being dumped from the mixer and prior to passing through the lay-down machine, all or any part of the load may be rejected.

1. **Transporting Asphaltic Concrete.** The asphaltic mixture, prepared as specified above, shall be hauled to the work in tight vehicles previously cleaned of all foreign material. The dispatching of the vehicles shall be arranged so that all material delivered may be placed, and all rolling shall be completed during daylight hours. In cool weather or for long hauls, canvas covers and insulating of the truck bodies may be required. The inside of the truck body may be given a light coating of oil, lime slurry, or other material satisfactory to the Engineer, if necessary, to prevent mixture from adhering to the body.
2. **Placing**
  - a. Generally, the asphaltic mixture shall be dumped and spread on the approved prepared surface with specified spreading and finishing machine, in such manner that when properly compact the finished pavement will be smooth, of uniform density and will meet the requirements of the typical cross sections and the surface tests. During the application of asphaltic material, care shall be taken to prevent splattering of adjacent pavement, curb, gutter and structures.
  - b. In placing a level-up course with the spreading and finishing machine, binder twine or cord shall be set to line and grade established by the Engineer. If approved by the Engineer, level-up courses may be spread with a motor grader.
  - c. When the asphaltic mixture is placed in a narrow strip along the edge of an existing pavement, or used to level up small areas of an existing pavement or placed in small irregular areas where the use of a finishing machine is not practical, the finishing machine may be eliminated when authorized by the Engineer, provided a satisfactory surface can be obtained by other approved methods.
  - d. **Flush Structures.** Adjacent to flush curbs, gutters, liners, and structures, the surface shall be finished uniformly high so that when compacted it will be slightly above the edge of the curb or flush structure.
3. **Conditions for Placement.** The asphaltic mixture when placed with a spreading and finishing machine, shall not be placed when the air temperature is below 50°F and is falling, but it may be placed when the air temperature is above 50°F and is rising. The air temperature shall be taken in the shade away from artificial heat. It is further provided that the asphaltic mixture shall be placed only when the humidity, general weather conditions, and temperature and moisture conditions of the base, in the opinion of the Engineer, are suitable.

4. Compacting

- a. Rolling with the three wheel and tandem rollers shall start longitudinally at the sides and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the rear wheel unless otherwise directed by the Engineer. Alternative trips of the roller shall be slightly different in length. On super-elevated curves, rolling shall begin at the low side and progress toward the high side unless otherwise directed by the Engineer. Rolling with pneumatic-tire roller shall be done as needed. Rolling shall be continued until no further compression can be obtained and all roller makers are eliminated. One tandem roller, one pneumatic-tire roller and at least one three wheel roller as specified above shall be provided for each job. If the Contractor elects, he may substitute the three axle tandem roller for the two axle tandem roller and/or the three wheel roller; but in no case shall less than three rollers be in use on each job. Additional rollers shall be provided if needed. The motion of the roller shall be slow enough at all times to avoid displacement of the mixture. If any displacement occurs, it shall be corrected at once by the use of rakes and of fresh mixtures when required. The roller shall not be allowed to stand on pavement which has not been fully compacted. To prevent adhesion of the surface mixture to the roller, the wheels shall be kept thoroughly moistened with water, but an excess of water will not be permitted. All rollers must be in good mechanical condition. Necessary precautions shall be taken to prevent the dropping of gasoline, oil, grease, or other foreign matter on the pavement, either when the rollers are in operation or when standing.

In lieu of the rolling equipment specified, the Contractor may, upon written permission from the Engineer, operate other compacting equipment that will produce equivalent relative compaction as the specified equipment. If the substituted compaction equipment fails to produce the desired compaction as would be expected of the specified equipment, as determined by the Engineer, its use shall be discontinued.

- b. Hand Tamping. The edges of the pavement along curbs, headers, and similar structures, and all places not accessible to the roller, or in such positions as will not allow thorough compaction may be compacted using lightly oiled tamps.

5. Opening to Traffic. The pavement shall be opened to traffic when directed by the Engineer. The Contractor's attention is directed to the fact that all construction traffic allowed on pavement open to public will be subject to the laws governing traffic on Public Roads and Streets.

If the surface ravels or presents a rough appearance, it will be the Contractor's responsibility to correct this condition at his expense. A fog seal and/or sand seal will be applied.

6. Density Test. Acceptance Sampling and Testing of Hot Mix Asphaltic Concrete (Compaction):

Hot Mix Asphaltic Concrete will be accepted for density on a lot basis. A lot will consist of 500 feet of one paving street. One test shall be made for each lot.

Each lot of pavement will be accepted, with respect to density, when the average field density is equal to or greater than 92% of the average maximum theoretical density as determined in accordance with ASTM D2725, and when no individual determination is less than 90% of the average maximum theoretical density. Four field density determinations will be made for each lot. The number of tests will be determined by this specification or by request of the engineer. An asphalt sample specimen shall be provided to the testing laboratory for determining the maximum theoretical density. If heating is necessary, the specimen shall be heated to the lowest temperatures required for proper preparation of the sample.

**TABLE 8  
SLIDING SCALE PAY FACTORS  
(DENSITY BASED ON PERCENT OF MAXIMUM THEORETICAL)**

AVERAGE PERCENT DENSITY	RECOMMENDED PERCENT PAYMENT
92% or Above	100
90.0 - 91.9	90 **
Below 90.0	Reject ***

\* Average of 4 samples

\*\* If the Owner agrees to accept densities between 90.0-91.9% a seal coat will be required at the costs of the contractor.

\*\*\* If the Owner agrees to accept densities below 90.0%, the pay factor for density shall be 50%.

7. Surface Tests. Tests for conformity with the specified crowns and grade shall be made by the Contractor immediately after final rolling. Any variation exceeding the specified tolerances shall immediately be corrected by removing the defective work and replacing with new material, as directed by the Engineer. Any correction required shall be at the sole expense of the Contractor.

For surface course, the finished surface shall not vary more than 1/4 inch (6.3mm), when tested with a 16 foot straightedge applied parallel with, or at right angles to, the centerline.

The finished surfaces of hot mix asphaltic concrete shall not vary from the gradeline, elevations and cross sections shown on the plans by more than 1/2 inch (12.7 mm). The Contractor shall correct pavement areas varying in excess of this amount by removing and replacing the defective work. Skin patching shall not be permitted for correction of low areas nor shall be permitted for correction of high areas.

8. Sampling Pavement. Samples for determination of thickness and density of completed pavements shall be obtained by the Owner. The size, number, and locations of the samples will be as directed by the Engineer.

All tests necessary to determine conformance with the specified requirements will be performed without cost to the Contractor; however, any required retests shall be performed at the Contractor's cost.

Upon delivery of the Hot Mix Asphaltic Concrete to the site, the Owner will hire a reputable commercial testing laboratory to sample the material and run laboratory tests to verify that the mixture conforms to project specifications (Gradation, Extraction, Hveem Stability and Retained Stability).

END OF SECTION

**SECTION 32 13 13  
CONCRETE PAVING**

**PART 1        GENERAL**

**1.1        REFERENCES**

A.    The following is a list of standards which may be referenced in this section:

1.    American Association of State Highway and Transportation Officials (AASHTO).
  - a.    M6, Standard Specification for Fine Aggregate for Portland Cement Concrete.
  - b.    M80, Standard Specification for Coarse Aggregate for Portland Cement Concrete.
  - c.    M153, Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
  - d.    M157, Standard Specification for Ready-Mixed Concrete.
  - e.    M213, Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
  - f.    M227/M227M, Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties.
2.    American Concrete Institute (ACI):
  - a.    305R, Hot Weather Concreting.
  - b.    306R, Cold Weather Concreting.
  - c.    308, Standard Practice for Curing Concrete.
  - d.    318/318R, Building Code Requirements for Structural Concrete and Commentary.
  - e.    325.9R, Guide for Construction of Concrete Pavements and Concrete Bases.
3.    ASTM International (ASTM):
  - a.    A615/A615M, Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - b.    C31/C31M, Standard Practice for Making and Curing Concrete Test Specimens in the Field.
  - c.    C33, Specification for Concrete Aggregates.
  - d.    C39/C39M, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
  - e.    C42/C42M, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.

- f. C78, Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading).
- g. C88, Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
  
- h. C94/C94M, Standard Specification for Ready-Mixed Concrete.
- i. C143/C143M, Standard Test Method for Slump of Hydraulic Cement Concrete.
- j. C150, Specification for Portland Cement.
- k. C172, Standard Practice for Sampling Freshly Mixed Concrete.
- l. C231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
- m. C260, Standard Specification for Air-Entraining Admixtures for Concrete.
- n. C309, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
- o. C494/C494M, Standard Specification for Chemical Admixtures for Concrete.
- p. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
  
- q. C803/C803M, Test Method for Penetration Resistance of Hardened Concrete.
- r. C1330, Specification for Cylindrical Seal Backing for Use With Cold Liquid Applied Sealants.
- s. C805, Test Method for Rebound Number of Hardened Concrete.
- t. D920, Standard Specification for Elastomeric Joint Seals.
- u. D994, Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
- v. D1751, Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
- w. D1752, Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
- x. D2628, Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete.
- y. D2828, Specification for Non-Bituminous Inserts for Contraction Joints in Portland Cement Concrete Airfield Pavements, Sawable Type.
  
- z. D3406, Specification for Joint Sealant, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements.
- aa. D3569, Specification for Joint Sealant, Hot-Applied, Elastomeric, Jet-Fuel-Resistant Type for Portland Cement Concrete Pavements. bb. D3581, Specification for Joint Sealant, Hot-Applied, Jet-Fuel-Resistant-Type, for Portland Cement and Tar-Concrete

- Pavements.
- cc. D5249, Specification for Backer Material for Use With Cold- and Hot-Applied Joint Sealants in Portland Cement Concrete and Asphalt Joints.
- dd. D5893, Specification for Cold-Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements.
- ee. E329, Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
- 4. National Ready Mixed Concrete Association (NRMCA).

## 1.2 DEFINITIONS

- A. Standard Specification: As defined in the Supplementary Conditions.

## 1.3 SUBMITTALS

- A. Provide as required in Section 03 30 00, Cast-in-Place Concrete.
- B. Action Submittals:
  - 1. Product Data: Admixtures.
  - 2. Design Data:
    - a. Concrete mix design signed by concrete mix designer.
    - b. Minimum Information:
      - 1) Name of ready-mix plant.
      - 2) Project.
      - 3) Engineer.
      - 4) Contractor.
      - 5) Mix design number.
      - 6) Specified concrete strength.
      - 7) Water-cement-fly ash ratio.
      - 8) Maximum aggregate size.
      - 9) Cement content.
      - 10) Fly ash content.
      - 11) Water content.
      - 12) Type, name, and amount of admixtures.
      - 13) Unit weight.
      - 14) Slump.
      - 15) Ingredient proportions corrected for average moisture content for particular times of year.
  - 3. Jointing Drawings: Identify location and spacing of each type of joint.
  - 4. Gradation for coarse and fine aggregates, and combined gradation. List percent passing each sieve size.
  - 5. Detailed plan for cold weather placements, including curing and protection.
  - 6. Detailed plans for hot weather placements, including curing and

protection.

- C. Informational Submittals:
  - 1. Manufacturers' Certificate of Compliance:
    - a. Portland cement.
    - b. Admixtures.
    - c. Fly ash.
    - d. Aggregates.
  - 2. Statements of Qualifications:
    - a. Mix designer.
    - b. Batch plant.
    - c. Testing laboratory.
  - 3. Test Reports:
    - a. Admixtures: Chemical ingredients and percentage of chloride in each admixture and fly ash.
    - b. Fly Ash: Source test analysis and amount used in accordance with ASTM C94/C94M, Section 16.
    - c. Mix Design: For each trial, signed by qualified mix designer.
    - d. Laboratory Mixes: Cylinder test results.
  - 4. Concrete Delivery Tickets:
    - a. For each batch of concrete before unloading at Site.
    - b. Minimum Delivery Ticket Information:
      - 1) Name of ready-mix plant.
      - 2) Serial number of ticket.
      - 3) Date and truck number.
      - 4) Name of Contractor.
      - 5) Job name and location.
      - 6) Mix design number.
      - 7) Amount of concrete (cubic yards).
      - 8) Type and amount of admixtures.
      - 9) Amount of water added at batch plant.
      - 10) Time of loading, arriving at Site, and unloading.
      - 11) Volume of water added by receiver of concrete and their initials.
    - c. Record of drum revolution counter, type, and brand.

#### 1.4 QUALITY ASSURANCE

- A. Provide as required in Section 03 30 00, Cast-in-Place Concrete.
- B. Qualifications:
  - 1. Mix Designer: Licensed professional engineer registered in the state of Project or a certified concrete mix designer approved by local Department

of Transportation.

2. Testing or Inspection Agency: In conformance with ASTM E329.
3. Batch Plant: Currently certified by the National Ready Mixed Concrete Association.

C. Prepaving Conference:

1. Held between Contractor, Subcontractor involved in concrete paving, and Engineer.
2. To be conducted a minimum of 7 days prior to commencing paving.
3. Conference cannot be held until mix design and admixture Submittals have been received by Engineer.
4. Items to discuss shall include, but not be limited to:
  - a. Mix design.
  - b. Method of placement.
  - c. Curing.
  - d. Finishing schedule.
  - e. Traffic control.
  - f. Protection of work.

D. Hot Weather Concreting: Conform to ACI 305R.

E. Cold Weather Concreting: Conform to ACI 306R.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Transporting of ready-mix concrete shall be in accordance with ASTM C94/C94M.

**PART 2 PRODUCTS**

2.1 CONCRETE MATERIALS

A. Cement:

1. Furnish cement for Project from one source.
2. Provide as required in Section 03 30 00, Cast-in-Place Concrete.
3. Portland cement shall be Type I.
4. In accordance with ASTM C150.
5. Pozzolan: As specified in Section 03 30 00, Cast-in-Place Concrete.

B. Aggregates:

1. General:
  - a. As specified in Section 03 30 00, Cast-in-Place Concrete.
  - b. Aggregate for portland cement concrete mixture shall be 1-1/2-inch maximum size stone meeting requirements of ASTM C33.

- c. Material: Natural aggregates, free from deleterious coatings.
- d. Aggregates shall not be potentially reactive as defined in ASTM C33.
- e. Aggregates not in compliance with soundness and durability requirements of ASTM C33 may be used with prior approval of Engineer; provided it can be shown by special testing or record of past performance that these aggregates produce concrete of adequate strength and durability. Aggregate soundness testing for fine and coarse aggregates shall be in accordance with ASTM C33 and ASTM C88.

2. Fine Aggregates:

- a. Grading Class meeting requirements of ASTM C33.
- b. Must be graded coarse to fine within the following limits.

<b>General Requirements</b>	
<b>Sieve Size Passing</b>	<b>Percentages by Weight</b>
3/8"	100
No. 4	90-100
No. 8	55-85
No. 16	45-75]
No. 30	25-55
No. 50	5-30
No. 100	0-8

- c. Sand: Equivalent of not less than 68.
- d. Materials finer than 200 sieve shall not exceed 4 percent.

3. Coarse Aggregate:

- a. Grading Class meeting requirements of ASTM C33.
- b. Materials finer than 200 sieve shall not exceed 0.5 percent.
- c. Size: 1-1/2-inch to No. 4.

d.

<b>Grading Requirements</b>		
<b>Sieve Size Passing</b>	<b>Separated Sizes 1-1/2 Inch to 3/4 Inch</b>	<b>Percentages (by Weight) 3/4 Inch to No. 4</b>
2"	100	
1-1/2"	90-100	
1"	30-65	100
3/4"	0-15	90-100
3/8"		20-50
No. 4		0-10

C. Physical Properties:

1. Meet requirements of AASHTO M80 for Class B.

D. Water: ASTM C94/C94M.

E. Admixtures:

1. Add admixtures to mix at batch plant.
2. Air Entraining: ASTM C260.
3. Water Reducing:
  - a. ASTM C494/C494M, Type A, normal, containing no chlorides and compatible with air-entraining admixtures.
  - b. Do not use calcium chloride, salt, or antifreeze agents.

2.2 ANCILLARY MATERIALS

A. Tie Bars: Grade 40 deformed steel bars conforming to ASTM A615/A615M.

B. Dowels: Conform to requirements of AASHTO M227/M227M, Grade 70. Joint

C. Filler:

1. Preformed expansion joint filler conforming to AASHTO M153 or AASHTO M2131751 or ASTM D1752.
2. Fillers furnished under AASHTO M213 shall be tested in accordance with ASTM D1751.

- D. Joint Sealant:
1. Preformed elastomeric joint seal conforming to AASHTO M220.
  2. Hot-poured elastomeric joint seal conforming to AASHTO M282.
  3. Cold-applied single component joint sealant conforming to ASTM D5893.
  4. Elastomeric joint sealant conforming to ASTM C920.
- E. Backer Rod:
1. Backer material conforming to ASTM D5249.
  2. Cylindrical sealant backing conforming to ASTM C1330.
- F. Curing Compound: ASTM C309, Type 1, Class A, suitable for spray application.
- Curing Membranes:
- G.
1. White polyethylene sheeting.
  2. Waterproof paper.
  3. Cotton or jute mats.
- H. Evaporation Retardant: Confilm as manufactured by Master Builders Company.

## 2.3 EQUIPMENT

- A. Ready-Mix Concrete Batch Plants: Certified by NRMCA.
- B. Batch Plants:
1. Bins shall have adequate separate compartments for fine aggregate, each separate size of coarse aggregate and cement. Bins and compartments shall be tight and ample to prevent spilling from one bin to another. Separate compartments, including weighting hoppers, shall discharge freely and efficiently.
  2. Scales for weighing aggregates and cement may be either beam type or springless dial type. They shall be accurate within 0.5 percent under operating conditions throughout the range of use and, tested and adjusted as often as Engineer may deem necessary to assure their continued accuracy.
  3. Equipment for dispensing water and admixtures shall provide a separate feed, accurate quantity measurement, and shall inject water and admixture at a time in mixing process to ensure thorough and complete mixing throughout batch of portland cement concrete.

4. Automatically controlled batchers shall have automatically interlocked mechanisms providing the following:
    - a. Positive weighing and discharge of cement and of each separate size of aggregate.
    - b. Interlocking between weighing hoppers to prevent part of batch from being discharged until each separate hopper has been filled with correct proportion.
    - c. Simultaneous discharge of hoppers.
    - d. Lockable compartment containing time setting controls.
  5. Equip mixers with a timing device that will not permit batch to be discharged until specified mixing time has elapsed. The means of storing, measuring and introducing water into mixer shall provide positive control and accurate measurement.
- C. Ready-Mix Concrete Trucks:
1. Agitator mixer type.
  2. Equipped with operable electrically actuated drum revolution counters.
  3. Use of nonagitator equipment will not be permitted.
  4. Each mixer shall carry a clearly visible manufacturer's plate showing capacity of mixer and other pertinent operating rates and limits.
  5. Provision shall be made at mixer for controlled addition of air- entraining admixtures or other special components of mix.
  6. Mixing Speed: 70 to 100 revolutions at a mixing speed recommended by truck mixer manufacturer.
- D. Hauling Equipment:
1. Hauling equipment shall conform to AASHTO M157, Paragraph 11.6 and Paragraph 12.
  2. Upon delivery of each batch of concrete to Site, a trip ticket shall be submitted to Engineer.
- E. Paving Equipment:
1. Slipform Paver:
    - a. Place portland cement concrete with two separate machines, one a spreader and one a slipform paver. Machines, when operating in tandem shall spread, consolidate, screed, and float finish freshly placed portland cement concrete in one pass with a minimum of hand finishing. Each machine shall be fully self-propelled and equipped with electronic controls to control line and grade from both sides.
    - b. Spreader shall be able to deliver mix without segregation or displacing reinforcing steel.

- c. Able to vibrate portland cement concrete for full width and depth and be equipped with vibrating tubes or arms to work in portland cement concrete. Sliding forms shall be held together rigidly to prevent them from spreading. Form shall be long enough so slumping of portland cement concrete will not exceed 1/4 inch.
  - d. Supports of paver and other equipment which ride on previously placed pavement shall be equipped to prevent marring, edge breaking, or chipping of previously placed pavement.
2. Bridge Deck Finisher/Paver: A bridge or similar finishing/paving machine utilizing previously constructed and cured curb and gutter as side forms and support for machine rails may be used with prior approval of Engineer.

F. Concrete Saws:

- 1. Provide power driven concrete saws for sawing joints or finishing concrete, adequate in number of units and power to complete sawing at required rate.
- 2. Saws and related equipment shall be of proven adequacy and design to perform efficiently and shall be subject to immediate replacement, if specified results are not obtained.
- 3. Standby saw shall be available at Site.

G. Smoothness Testing Equipment: Supply two 12-foot straightedges for determining smoothness.

2.4 CONCRETE MIX DESIGN

- A. As specified in Section 03 30 00, Cast-in-Place Concrete, with a minimum flexural strength of 650 psi.
- B. Compressive strength of 4,000 psi minimum and flexural strength of 650 psi minimum, both at 28 days.
  - 1. If the 650 psi flexural strength specification requires a compressive strength in excess of 4,000 psi, the higher compressive value shall be used as a standard minimum for compressive strength cylinder tests taken during construction.
  - 2. The relationship between compressive strength  $f_c$  and modulus of rupture  $f_r$  shall be:

$$f_r = \sqrt{k} f_c$$

with  $k$  derived from the tests results.

- C. Concrete target strengths shall be in accordance with ACI 318/318R.
- D. Maximum water-cement ratio or water-cement plus pozzolan

ratio, if applicable, shall not exceed 0.48.

- E. Replacement of cement with pozzolan shall not exceed 20 percent.
- F. Maximum Aggregate Size: 1-1/2 inch(es) minus.
- G. Allowable Slump: 3 inches, plus or minus 1 inch.
- H. Allowable Air Entrainment: 5 percent, plus or minus 1 percent by volume.
- I. Concrete shall contain water reducer. Amount of admixture added to concrete shall be in accordance with manufacturer's written instructions.
- J. Use of set-retarding admixtures shall be subject to prior approval by Engineer.
- K. Do not use frozen materials or materials containing ice or snow.
- L. Concrete temperature as delivered to site ready for placement shall be above 50 degrees F and below 90 degrees F.
- M. If Contractor proposes to use a current mix design that meets these Specifications, has been used on previous project, and less than 1 year has elapsed since it was last used; Contractor shall submit documentation of production of concrete produced from that mix design to Engineer for review. If review verifies concrete produced meets these Specifications and strength requirements, and establishes a correlation between compressive strength and flexural strength, no trial batches for proposed mix design will be required.

### **PART 3 EXECUTION**

#### **3.1 WEATHER LIMITATIONS**

- A. Concrete shall not be placed:
  - 1. Until the air temperature in the shade is 35 degrees F and rising and is forecast to remain above 35 degrees F.
  - 2. On frozen ground.
  - 3. During periods of rain or snow.
- B. Concrete placement shall not continue when air temperature drops below 40 degrees F.
- C. Protect concrete pavement from inclement weather for 7 days after it has been placed, when rain is imminent, and when air temperature drops or is forecast to drop below 35 degrees F.

#### **3.2 PREPARATION**

- A. Prepare base as specified in Section 32 11 23, Crushed Limestone Flexible Base.
- B. Dampen base thoroughly prior to concrete placement; standing water will not be permitted.
- C. Formwork shall be complete prior to placement of concrete. Area in which concrete is to be placed, shall be smooth and free of ruts, projections, debris, spilled concrete, mud, sloughed soil, standing water, organic and other objectionable materials.
- D. Construction Joints: Inspect prior to placement of concrete.
- E. Prior to placing paving equipment in position, full width and length of the area on which the tracks of the paving equipment is to operate shall be brought to density and surface tolerances required.
- F. Protect existing exposed surfaces such as grates, catch basins, air valves, manholes, and cleanout lids from splattered and spilled concrete during concrete placement by use of durable waterproof paper.
- G. Furnish operable backup vibrator on Site prior to concrete placement.

### 3.3 SLIP FORM PAVING

- A. Deliver from hauling vehicles to paving machine hopper.  
Contractor's equipment hauling portland cement concrete or reinforcement will not
- B. be permitted on subgrade, but will be allowed on base, with turns or other maneuvering kept to a minimum. Damage to subgrade or base shall be corrected to satisfaction of Engineer.
- C. Place in final position uniformly in one layer, so a minimum of finishing will be necessary to provide a dense, homogenous pavement conforming to true grade and cross section.
  - 1. Spreader shall receive portland cement concrete mixture in its hopper and uniformly spread and strike it off at proper thickness for full width of area being paved.
  - 2. Paver shall vibrate, consolidate, and finish slab to proper grade and cross section.
- D. Paver:
  - 1. Operated with as continuous forward movement as possible.
  - 2. Coordinate mixing, delivering, and spreading portland cement concrete to provide uniform progress.
  - 3. Stopping and starting paver shall be held to a minimum. If, for any

reason, it is necessary to stop forward motion of paver, vibratory and tamping elements shall also be stopped immediately.

4. No external force shall be applied to paver, except with approval of Engineer.
- E. While placing portland cement concrete, provision shall be made for constructing joints, placing dowels, tie bars, and other devices as called for by Drawings and as provided in Article Joints.
- F. Portland cement concrete shall be rejected if it:
  1. Is not in place within 1 hour after being mixed.
  2. Has begun to take an initial set prior to placement.
  3. Has been retempered with water.
- G. If necessary, supplemental hand spreading and distributing shall be with shovels. Rakes will not be permitted.
- H. Portland cement concrete shall not be fouled with foreign matter.
- I. Use vibrators to consolidate portland cement concrete pavement at least 6 feet each side of construction joints and expansion joints.

#### 3.4 STATIONARY SIDE FORM CONSTRUCTION

- A. Where width of pavement is narrow, tapering, or of irregular pattern not lending itself to being constructed by prescribed machine methods, Contractor shall be permitted to [B: place concrete as specified in Section 03 30 00, Cast-in-Place Concrete.]] [C: Perform strike off, consolidation, final floating, and surface finishing with equipment, tools, means, labor, and methods other than those specified, provided the Work meets approval of Engineer and the following requirements:
  1. As concrete is being placed, striking off and consolidating portland cement concrete shall be done without causing segregation of material and shall include thorough uniform vibration throughout the mass until it is uniformly compacted.
  2. Portland cement concrete shall be struck off by means of templates or screeds designed and manipulated to shape portland cement concrete to specified cross section between forms, carrying a slight excess of portland cement concrete in front of leading edge of templates or screeds at all times. Tamp portland cement concrete to reduce voids to a minimum.
  3. Floating shall follow vibrating, striking off, and tamping operations and shall include transverse floating or other smoothing and finishing action. This shall provide a surface and evenness within a 12-foot straightedge tolerance of 0.01 foot. Test hardened surface in presence of Engineer. Surface shall be

free from laitance, soupy mortar, marks, or irregularities.

B. Defects:

1. Fill areas of minor honeycomb or other minor defect in composition of portland cement concrete along exposed edges of portland cement concrete with a stiff mortar of cement and fine aggregate. Apply to moistened portland cement concrete to satisfaction of Engineer.
2. Area showing serious defects in composition of concrete shall be removed and replaced with pavement of specified quality for full width of strip between longitudinal joints or edges and for a length not less than between the nearest transverse joints.

3.5 JOINTS

A. General:

1. Referred to as contraction or construction, either of which may be transverse or longitudinal, as called for by Drawings or as approved by Engineer.
2. Joints, backer material, joint filler and joint sealants shall extend to pavement edges or to each other, as the case may be, and shall be constructed perpendicular to surface of pavement.
3. Joints shall not vary from specified or indicated line by more than 1/4 inch.
4. Contractor shall submit jointing plan and details to Engineer for approval. Take into consideration placement of joints in curb and gutter,

at catch basins, and position of manholes and other large structures, as well as other limitations herein mentioned.

5. Place manhole or similar large structure in line of joint, or if impractical, isolate structure from pavement with premolded joint filler, 1/2-inch wide, conforming to AASHTO M213 and ASTM D1751.

B. Contraction Joints:

1. Sawed Type with Poured Filler:
  - a. Sawing shall be to a depth as shown on Drawings with a maximum width of 1/4 inch and a minimum width of 1/8 inch, in straight lines as shown or as approved by Engineer.
  - b. Perform saw cuts as soon as portland cement concrete has set enough to permit sawing without tearing or raveling, before uncontrolled cracking results, and within 24 hours of placing portland cement concrete.

- c. Saws may be single or tandem, as Contractor may elect, and shall be controlled by guides to true line.
  - d. Clean joints thoroughly of foreign matter before pouring approved rubber asphalt filler.
  - e. Tops of joint filler shall be true to pavement cross section within 1/8 inch and shall be protected from damage by portland cement concrete operations.
  - f. Areas containing uncontrolled cracks shall be removed and replaced.
  - g. Restore curing agents broken or damaged by sawing operations.
2. Space longitudinal joints as shown on Drawings at the interface between lanes, normally at intervals between 12 feet to 16 feet.
  3. Transverse joints shall be as shown on Drawings or as approved by Engineer, with intervals of 12 feet to 16 feet.

C. Construction Joints:

1. Construct when there is an interruption of longer 45 minutes in portland cement concrete placing operations or where specified.
2. Place parallel with intended contraction joint.
3. Tool both free edges of joints with 1/8 inch radius rounder to remove laitance and mortar resulting from finishing operations and to provide clean rounded edge. Tooling shall not form ridges on surface of concrete.
4. New portland cement concrete placed contiguous to joint shall conform to proportions and consistency of previously placed concrete.
5. Transverse Construction Joint:
  - a. Doweled type using No. 8 by 36-inch long dowels at 12-inch centers coated with plastic, grease, heavy oil or other approved material that will neither bond with nor be harmful to operation at a depth of 1/2 the pavement thickness parallel to centerline.
  - b. If sufficient portland cement concrete has not been mixed at the time of interruption to place a construction joint at least 3 feet from a planned contraction joint, remove excess portland cement concrete back to a position to satisfactorily meet these criteria and to satisfaction of Engineer.
  - c. Fill joint which has opened to a width of 1/8 inch or greater during construction or maintenance periods with poured filler.
  - d. Do not construct within 3 feet of a transverse contraction joint.
6. Longitudinal Construction Joint:
  - a. Tied type using No. 5 by 36-inch deformed tie bars at 12-inch centers.
  - b. Tie Bars:
    - 1) Not required at construction joint between portland cement concrete pavement and gutter, except where shown on Drawings and mentioned above.

- 2) Placement:
    - a) Plastic Portland Cement Concrete: Insert before vibrating and finishing portland cement concrete; or
    - b) Hardened Concrete:
      - (1) Drill hole, insert, and grout tie bars into place.(2) Drill holes large and deep enough to allow tie bars to be inserted with grout.
      - (3) Perform any time after portland cement concrete has attained enough strength to resist any damage caused by drilling.
      - (4) Tie bars shall be grouted a maximum of 3 hours prior to placement of adjacent portland cement concrete.
  - 3) Replace loose tie bars by drilling and grouting as described.
- D. Scored Joints:
1. Configuration: 1/4-inch wide by 1/4-inch deep at locations indicated on Drawings formed by tooling of concrete while it is still fresh.
  2. Do not fill or seal.
  3. Layout of joints shall be straight and true and shall not vary from indicated line by more than 1/4 inch.

### 3.6 SURFACE FINISHING

- A. Use temporary screeds. Wet screeding and jitterbugging shall not be permitted.
- B. Pavement shall have surface tolerance of 1/4 inch in 10 feet in accordance with ACI 325.9R.
- C. Salting, spreading of cement or cement and sand mixture to speed up hardening shall not be permitted.
- D. Exposed pavement edges shall be edged to a 1/2-inch radius and construction joints shall be edged to 1/4-inch radius after finishing. Edging shall not form ridges on pavement surface.
- E. Pavement shall be treated and protected by use of evaporation retardant applied in accordance with manufacturer's written instructions. Flat surfaces shall be treated immediately after screeding and floating or if time period greater than 15 minutes occurs between finishing operations.
- F. Pavement shall be screeded, floated, and given heavy nylon bristle-broomed skid- resistant surface.
  1. Broomed surface with hand broom or mechanical broom device to produce

1/16-inch to 1/8-inch deep striations oriented perpendicular to the direction of travel.

### 3.7 CURING OF PORTLAND CEMENT CONCRETE

- A. Immediately after the final floating, surface finishing, and edging has been completed, and while portland cement concrete surface is still moist, cover and cure entire exposed surface for at least 72 hours in accordance with one of the following provisions:
1. Liquid Membrane-Forming Compounds: Apply compound uniformly to portland cement concrete by pressure spray methods at a rate which will form an impervious membrane, but at least at a rate of 1 gallon per 150 square feet.
  2. Other Membranes:
    - a. Apply to damp portland cement concrete as soon as it can be placed without marring surface.
    - b. Place in contact with surface, extend beyond sides or edges of slabs or forms, and fasten down to hold it in position as a waterproof and moistureproof covering.
    - c. Laps shall be sufficient to maintain tightness equivalent to sheeting.
    - d. Transverse laps for waterproof paper shall be at least 18 inches, and longitudinal seams shall be cemented.
    - e. Cotton or jute mats shall be saturated with water prior to placing and kept fully wetted during curing period.
- B. Concrete shall be cured by use of curing compound, for minimum of 7 days after concrete placement, in accordance with ACI 308. Curing compounds shall be applied in accordance with manufacturer's written instructions.
- C. Exposed surfaces shall be sprayed with curing compound immediately after free surface water has disappeared from finished surface.
- D. Concrete temperature shall be maintained in accordance with ACI 306R.
- E. Curing compounds shall not come in contact with hardened concrete that is to be concreted against.

### 3.8 FIELD QUALITY CONTROL

- A. Retain independent testing or inspection agency to perform inspection, sampling, and testing.
- B. Concrete Sampling: In accordance with ASTM C172. Take sample not less than every 5,000 square feet or fraction thereof of concrete placed each

day.

- C. Perform following tests on each sampling:
  - 1. Slump: ASTM C143/C143M.
  - 2. Air Content: ASTM C231.
  - 3. Compressive Strength: ASTM C39/C39M.
  - 4. Flexural Strength: ASTM C78.
  
- D. Strength Tests:
  - 1. Make and cure cylinders and beams in accordance with ASTM C31/C31M.
  - 2. Cylinders: Make four, standard 6-inch diameter by 12 inches high. Cure one in field and three in laboratory.
  - 3. Beams: Make three, standard 6 inches by 6 inches by 21 inches. Cure in field.
  - 4. Compressive: Test one field-cured cylinder at 7 days and two laboratory- cured cylinders at 28 days. Test last cylinder at 56 days if 28-day cylinder is below specified strength.
  - 5. Flexural: Test one beam at 7 days and two beams at 28 days.
  
- E. Acceptance of concrete shall be in accordance with ACI 318/318R. Concrete with compressive strength less than specified, as evidenced by cylinder tested
  
- F. at 56 days, shall be additionally tested as follows:
  - 1. Less Than 500 psi Low in Compression or Less Than 75 psi Low in Flexure:
    - a. Penetration Resistance Test: ASTM C803.
    - b. Rebound Hammer Test: ASTM C805.
    - c. Perform tests within 24 hours of noncomplying strength tests.
  - 2. More Than 500 psi Low in Compression or More Than 75 psi Low in Flexure:
    - a. Concrete Coring: Take three standard cores from concrete representing original specimens.
    - b. Take and prepare cores in accordance with ASTM C42/C42M.
    - c. Test cores in accordance with ASTM C39/C39M.
    - d. Take cores within 24 hours of noncomplying strength test.
  
- G. Pay Factor:
  - 1. Portland cement concrete shall be accepted according to average compressive strengths of four or more cylinders taken for 28-day tests for each 500 cubic yards placed and the following acceptance schedule.

<b>Acceptance Schedule Compressive Strength</b>	
<b>Pay Factor</b>	<b>Percent of Specified Strength</b>
1.00	95 percent or higher
0.90	90 to 95 percent
0.70	80 to 90 percent
Remove and replace	Less than 80

2. Whenever percentage of specified compressive strength falls below the level of 80 percent, Engineer may require the portland cement concrete be removed and replaced to meet required Specifications.
3. If the compressive strength,  $f_c$ , to comply with the flexural strength requirement is greater than 4,000 psi, then the specified strength shall be multiplied by:

$$\frac{f_c}{4000}$$

**3.9 CLEANING**

- A. Clean concrete splatter from exposed surfaces.
- B. Thoroughly broom and wash concrete surfaces before opening to traffic.

**3.10 PROTECTION OF CONCRETE**

- A. Do not operate construction equipment or allow traffic on newly placed portland cement concrete until the following requirements are met:
  1. Joints have been filled as per Article Joints.
  2. Concrete has attained a compressive strength of at least 4,000 pounds per square inch.
- B. Protect new concrete from construction operations, mechanical disturbances, water flow, and soiling until open for traffic.
- C. Erect and maintain suitable barriers to protect concrete from traffic or other detrimental trespass until pavement is opened to traffic.
- D. Maintain watchmen after normal working hours for at least a 24-hour period to ensure barriers are not removed or destroyed, and that trespass and vandalism upon pavement does not occur.

- E. Wherever it is necessary that traffic, including Contractor's vehicles and equipment, be carried from one side of pavement to the other, construct suitable bridges over pavement, and maintain them in good condition as long as they may be required. Leaving gaps in pavement to facilitate movement of traffic will not be allowed, unless prior written permission is obtained from Engineer.
  
- F. Protect new concrete from dirt, asphalt, and other deleterious substances that may be tracked onto new pavement from construction activities.
  
- G. Pavement damaged by traffic or damaged from any other cause, prior to its official acceptance, shall be repaired or replaced to the satisfaction of Engineer.

**END OF SECTION**

SECTION 32 16 00

CONCRETE CURBS, GUTTERS, DRIVEWAYS & SIDEWALKS

PART 1 GENERAL

1.01 DESCRIPTION

This guide specification covers the requirements for concrete sidewalks, driveways, and concrete curbs and gutters. Concrete shall be composed of portland cement concrete in accordance with the lines and grades established by the Engineer and in conformance with the details shown on the plans.

1.02 PRODUCTS

**CONCRETE:** Concrete shall conform to the details in the plans except as otherwise specified. Concrete shall have a minimum compressive strength of 3000 psi at 28 days. Maximum size of aggregate shall be 1-1/2 inches. In climates where freezing is not a factor but where air entrainment is used in local commercial practice to improve the workability and place ability of concrete, concrete having air content percent of 4-1/2 plus or minus 1-1/2 percent may be specified as Contractor's option to non air-entrained concrete. Mixtures may have air content by volume of concrete of 5 to 7 percent, based on measurements made immediately after discharge from the mixer. The desired slump will be inserted. Suggested limits are 3 inches plus or minus 1 inch for hand placed concrete or for slip formed concrete. The concrete slump shall be 3 inches where determined in accordance with ASTM C 143.

**JOINT FILLER STRIPS & SEALANTS:** Contraction joint filler for curb and gutter shall consist of hard-pressed fiberboard. Joint sealant, cold-applied shall be a rubberized asphalt sealant or equal approved by the engineer.

1.03 CONSTRUCTION METHODS

**Placing During Warm Weather:** The temperature of the concrete as placed shall not exceed 100 degrees F except where an approved retarder is used. The mixing water and/or aggregates shall be cooled, if necessary, to maintain a satisfactory placing temperature. In no case shall the placing air temperature exceed 103 degrees F.

**FORM WORK:** Form work shall be designed and constructed to insure that the finished concrete will conform accurately to the indicated dimensions, lines, and elevations, and within the tolerances specified. Forms shall be of wood or steel, straight, of sufficient strength to resist springing during depositing and consolidating concrete. Wood forms shall be surfaced plank, 2-inch nominal thickness, straight and free from warp, twist, loose knots, splits or other defects. Wood forms shall have a nominal length of 10 -12 feet. Radius bends may be formed with 3/4-inch boards, laminated to the required thickness. Steel forms shall be channel-formed sections with a flat top surface and with welded braces at each end and at not less than two intermediate points. Ends of steel forms shall be interlocking and self-aligning. Steel forms shall include flexible forms for radius forming, corner forms, form spreaders, and fillers. Steel forms shall have a **nominal** length of 10 feet with a minimum of two welded stake pockets per form. Stake pins shall be solid steel rods with chamfered heads and pointed tips designed for use with steel forms.

**FORM SETTING:** Forms shall be carefully set to the indicated alignment, grade and dimensions. Forms shall be held rigidly in place by a minimum of three stakes per form placed at intervals not to exceed 4 feet. Corners, deep sections, and radius bends shall have additional stakes and braces, as required. Clamps, spreaders, and braces shall be used where required to insure rigidity in the forms. Forms shall be removed without injuring the concrete. Bars or heavy tools shall not be used against the concrete in removing the forms. Any concrete found defective after form removal shall be promptly and satisfactorily

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repaired. Forms shall be cleaned and coated with form oil each time before concrete is placed. Wood forms may, instead, be thoroughly wetted with water before concrete is placed, except that with probable freezing temperatures, oiling is mandatory. Forms for sidewalks shall be set with the upper edge true to line and grade with an allowable tolerance of 1/8 inch in any 10-foot long section. After forms are set, grade and alignment shall be checked with a 10-foot straightedge. Forms shall have a transverse slope [as indicated] 1/4-inch per foot with the low side adjacent to the roadway. Side forms shall not be removed for 18 hours after finishing has been completed.

**CONCRETE PLACEMENT AND FINISHING:** Concrete shall be placed in the forms in one layer of such thickness that when consolidated and finished the sidewalks will be of the thickness indicated. After concrete has been placed in the forms, a strike-off guided by side forms shall be used to bring the surface to proper section to be compacted. The concrete shall be consolidated with an approved vibrator, and the surface shall be finished to grade with a wood float, bull float, or darby, edged and broom finished. After straight edging, when most of the water sheen has disappeared, and just before the concrete hardens, the surface shall be finished to a smooth and uniformly fine granular or sandy texture free of waves, irregularities, or tool marks. A scored surface shall be produced by brooming with a fiber-bristle brush in a direction transverse to that of the traffic. All slab edges, including those at formed joints, shall be finished carefully with an edger having a radius of 1/8 inch. Transverse joint shall be edged before brooming, and the brooming shall eliminate the flat surface left by the surface face of the edger. Corners and edges which have crumbled and areas which lack sufficient mortar for proper finishing shall be cleaned and filled solidly with a properly proportioned mortar mixture and then finished. **All slab edges, including those at formed joints, shall be sealed with a rubberized asphalt sealant to control water damage to the subgrade and control of weed and grass growth in the edges and joints.**

Tolerances: Finished surfaces shall not vary more than 1/4 inch from the testing edge of a 10-foot straightedge. Permissible deficiency in section thickness will be up to 1/4 inch.

Expansion Joints: The Expansion joints shall be formed in the fresh concrete by cutting a groove in the top portion of the slab to a depth of at least one-fourth of the sidewalk slab thickness, using a jointer to cut the groove, or by sawing a groove in the hardened concrete with a power-driven saw, unless otherwise approved. Sawed joints shall be constructed by sawing a groove in the concrete with a 1/8-inch blade to the depth indicated. Isolation-joint filler will be required between curbs that abut the sidewalk longitudinally. Joint filler in expansion joints surrounding structures and features within the sidewalk may consist of performed filler material conforming to ASTM D 1752 or building paper. Isolation joints shall be formed with 3/4 inch fiber board with 3/4 inch joint tack strips. At the end of the curing period, expansion joints shall be carefully cleaned and filled with joint sealer.

**CURING AND PROTECTION:** Concrete shall be protected against loss of moisture and rapid temperature changes for at least 7 days from the beginning of the curing operation. Unhardened concrete shall be protected from rain and flowing water. All equipment needed for adequate curing and protection of the concrete shall be on hand and ready for use before actual concrete placement begins. Protection shall be provided as necessary to prevent cracking of the pavement due to temperature changes during the curing period.

Protection: Completed concrete shall be protected from damage until accepted. The Contractor shall repair damaged concrete and clean concrete discolored during construction. Concrete that is damaged shall be removed and reconstructed for the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable. Removed damaged portions shall be disposed of as directed.

**FIELD QUALITY CONTROL:** The Contractor shall perform the inspection and tests described and meet the specified requirements for inspection details and frequency of testing. Based upon the results of

these inspections and tests, the Contractor shall take the action and submit reports as required below, and any additional tests to insure that the requirements of these specifications are met.

**Strength Testing:** The Contractor shall provide molded concrete specimens for strength tests. Samples of concrete placed each day shall be taken not less than once a day nor less than once for every 150 cubic yards of concrete. The samples for strength tests shall be taken in accordance with ASTM C 172. Cylinders for acceptance shall be molded in conformance with ASTM C 31 by an approved testing laboratory. Each strength test result shall be the average of two test cylinders from the same concrete sample tested at 28 days, unless otherwise specified or approved. At least one concrete cylinder should be made to determine an early 7 day strength so further construction can be conducted. Concrete specified on the basis of compressive strength will be considered satisfactory if the averages of all sets of three consecutive strength test results equal or exceed the specified strength, and no individual strength test result falls below the specified strength by more than 500 psi.

**Slump Test:** One slump tests shall be made on randomly selected batches of each class of concrete for every 150 cubic yards, or fraction thereof, of concrete placed during each shift. All slump tests are to be done on the middle third of the concrete within the concrete truck. Additional tests will be performed when excessive variation in the workability of the concrete is noted or when excessive crumbling or slumping is noticed along the edges of slip-formed concrete. Additional tests can be requested by the engineer or the testing laboratory at any time of the concrete job.

**Surface Evaluation:** The finished surface of each category of the completed work shall be uniform in color and free of blemishes and form or tool marks. Exposed surfaces of the finished work will be inspected by the Engineer and any deficiencies in appearance will be identified. Areas which exhibit excessive cracking, discoloration, form marks, or tool marks or which are otherwise inconsistent with the overall appearances of the work shall be removed and replaced.

END OF SECTION

**SECTION 32 91 13  
SOIL PREPARATION**

**PART 1 GENERAL**

1.01 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. ASTM International (ASTM):
    - a. C33/C33M, Standard Specification for Concrete Aggregates.
    - b. C602, Standard Specification for Agricultural Liming Materials.
    - c. D2974, Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils.
    - d. D5268, Standard Specification for Topsoil Used for Landscaping Purposes.

1.02 SUBMITTALS

- A. Action Submittals:
1. Samples:
    - a. Representative of stockpiled or imported topsoil.
    - b. **[A: .]**
- B. Informational Submittals:
1. Certified Topsoil Analysis Reports:
    - a. Indicate quantities of materials necessary to bring **[A: onsite]** **[B: imported]** topsoil into compliance with textural/gradation requirements.
    - b. Indicate quantity of lime, quantity and analysis of fertilizer, and quantity and type of soil additive.

1.03 SEQUENCING AND SCHEDULING

- A. **[A: Rough grade areas to be planted or seeded] [B: Perform Work specified in Section 31 10 00, Site Clearing,]** prior to performing Work specified under this section.

**PART 2 PRODUCTS**

2.01 TOPSOIL

- A. General: Natural, friable, sandy loam, obtained from well-drained areas, free from objects larger than 1-1/2 inches maximum dimension, and free of subsoil, roots, grass, other foreign matter, hazardous or toxic substances, and deleterious material that may be harmful to plant growth or may hinder grading, planting, or maintenance.
- B. Composition: In general accordance with ASTM D5268:
1. Gravel-Sized Fraction: Maximum **[A: 5] [B: ]** percent by weight retained on a No. 10 sieve.

**SECTION 32 31 13  
CHAIN LINK FENCES AND GATES**

**PART 1        GENERAL**

1.1        REFERENCES

- A.        The following is a list of standards which may be referenced in this section:
1. ASTM International (ASTM):
    - a.        A121, Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
    - b.        A313/A313M, Standard Specification for Stainless Steel Spring Wire.
    - c.        A392, Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
    - d.        A491, Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric.
    - e.        A497/A497M, Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
    - f.        A615/A615M, Standard Specification for Deformed and Plain Billet- Steel Bars for Concrete Reinforcement.
    - g.        A780, Standard Specification for Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings.
    - h.        A824, Standard Specification for Metallic-Coated Steel Marcellled Tension Wire for Use with Chain Link Fence.
    - i.        A1011/A1011M, Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High- Strength Low-Alloy with Improved Formability.
    - j.        C94/C94M, Standard Specification for Ready-Mixed Concrete.
    - k.        C150, Standard Specification for Portland Cement.
    - l.        C387, Standard Specifications for Packaged, Dry, Combined Materials for Mortar and Concrete.
    - m.        F552, Standard Terminology Relating to Chain Link Fencing.
    - n.        F567, Standard Practice for Installation of Chain-Link Fence.
    - o.        F626, Standard Specification for Fence Fittings.
    - p.        F668, Standard Specification for Polyvinyl Chloride (PVC) and Other Organic Polymer-Coated Steel Chain-Link Fence Fabric.
    - q.        F900, Standard Specification for Industrial and Commercial Swing Gates.

- r. F934, Standard Specification for Standard Colors for Polymer- Coated Chain Link Fence Materials.
  - s. F1043, Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
  - t. F1083, Standard Specification for Pipe, Steel, Hot-Dipped Zinc- Coated (Galvanized) Welded, for Fence Structures.
  - u. F1183, Standard Specifications for Aluminum Alloy Chain Link Fence Fabric.
  - v. F1184, Standard Specifications for Industrial and Commercial Horizontal Slide Gates.
  - w. F1379, Standard Terminology Relating to Barbed Tape.
  - x. F1911, Standard Practice for Installation of Barbed Tape.
  - y. F1916, Standard Specification for Selecting Chain Link Barrier Systems with Coated Chain Link Fence Fabric and Round Posts for Detention Applications.
- 2. Institute of Electrical and Electronic Engineers (IEEE), Inc.: C2, National Electrical Safety Code.
  - 3. National Electrical Manufacturers Association (NEMA): 250, Enclosures for Electrical Equipment (1,000 volts max.).

## 1.2 DEFINITIONS

- A. Terms as defined in ASTM F552.

## 1.3 SUBMITTALS

- A. Action Submittals:

- 1. Shop Drawings:
  - a. Product Data: Include construction details, material descriptions, dimensions of individual components, and finishes for chain link fences and gates.
    - 1) Fence, gate posts, rails, and fittings.
    - 2) Chain link fabric.
    - 3) Gates and hardware.
    - 4) Gate operators, motors, and mounting arrangements, switches, and controls; include operating instructions.
    - 5) Gate access system, including access control features, power and control wiring diagrams, and operating instructions.
    - 6) Accessories: Barbed wire.
- 2. Samples:
  - a. Chain Link Fabric: Approximately 12 inches square.
  - b. Posts, Rails, Braces, Wire, and Ties: Approximately 12 inches long.

- c. Fittings: 1 each.
- d. PVC or Polymer Coated Fabric Including Manufacturer's Color Selections: Approximately 12 inches square.
- e. Privacy Slats Including Manufacturer's Color Selections: Approximately 6 inches long.

- 3. Test Reports: Field test result for compliance of installation of chain link fence, gates, and gate operators.

B. Informational Submittals:

- 1. Manufacturer's recommended installation instructions.
- 2. Evidence of Supplier and installer qualifications.

1.4 QUALITY ASSURANCE

A. Qualifications:

- 1. Automatic Gate Operator System Supplier: 5 years' experience in gate operator systems.
- 2. Automatic Gate Operator System Installer: Experienced installer who has completed chain link fences and gates similar in material, design, and extent to those indicated for Project and whose work has resulted with a record of successful in-service performance with a minimum 3 years' experience.

- B. Design, supply of equipment and components, installation, and on-call service shall be product of individual company with record of installations meeting requirements specified.

- C. Preinstallation Conference: Conduct conference at project Site with gate installer to verify layout and operations of automatic gate operating system.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Site in undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

1.6 SCHEDULING AND SEQUENCING

- A. Complete necessary Site preparation and grading before installing chain link fence and gates.
- B. Interruption of Existing Utility Service: Notify owner of utility 72 hours prior to interruption of utility services. Do not proceed with interruption of utility service without written permission from utility owner.

1.7 SPECIAL GUARANTEE

- A. Provide manufacturer's extended guarantee or warranty, with Owner named as beneficiary, in writing, as special guarantee. Special guarantee shall provide for correction, or at the option of the Owner, removal and replacement of the following items found defective during a period of 1 year after the date of Substantial Completion. Duties and obligations for correction or removal and replacement of defective Work shall be as specified in the General Conditions.
  - 1. Faulty operations of gate operators and controls.
  - 2. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  - 3. Deflection of fence fabric beyond limits.

**PART 2 PRODUCTS**

2.01 GENERAL

- A. Match style, finish, and color of each fence component with that of other fence components. CHAIN

2.02 LINK FENCE FABRIC

- A. Galvanized fabric conforming to ASTM A392, Type II; galvanized after weaving.
- B. PVC-coated or Polymer-coated galvanized fabric conforming to ASTM F668, Class 1 or Class 2a over metallic-coated steel wire.
  - 1. Color: Dark Green, complying with ASTM F934.
- C. Height: 96 inches, unless otherwise shown.

- D. Core Wire Gauge: No. 9. Pattern:
- E. 2-inch diamond-mesh.
- F. Diamond Count: Manufacturer's standard and consistent for fabric furnished of same height.
- G. Loops of Knuckled Selvages: Closed or nearly closed with space not exceeding diameter of wire.
- H. Wires of Twisted Selvages:
  - 1. Twisted in a closed helix three full turns.
  - 2. Cut at an angle to provide sharp barbs that extend minimum 1/4 inch beyond twist.

## 2.3 POSTS

- A. General:
  - 1. Strength and Stiffness Requirements: ASTM F1043; heavy industrial fence, except as modified in this section.
  - 2. Round Steel Pipe, Schedule 40: ASTM F1083.
  - 3. Roll-Formed Steel Shapes: Roll-formed from ASTM A1011/A1011M, Grade 45, High-Strength Low-Alloy steel.
  - 4. Lengths: Manufacturer's standard with allowance for minimum embedment below finished grade of 34 inches.
  - 5. Protective Coatings:
    - a. Zinc Coating: ASTM F1043, Type A external and internal coating.
  - 6. Color Coating: ASTM F1043, minimum 10 mils thickness over zinc coating to match color of chain link fabric.
- B. Line Posts:
  - 1. Round Steel Pipe:
    - a. Outside Diameter: 1.5 inches.
- C. End, Corner, Angle, and Pull Posts:
  - 1. Round Steel Pipe:
    - a. Outside Diameter: 2.875 inches.
- D. Posts for Removable Fence Panels: As specified for end, corner, angle, and pull posts.

- E. Posts for Swing Gates Over 8 Feet High: As recommended by fence manufacturer.
- F. Posts for Horizontal Sliding Gates: As recommended by fence manufacturer.

2.4 TOP AND BRACE RAILS

- A. Galvanized Round Steel Pipe:
  - 1. ASTM F1083.
  - 2. Outside Diameter: 1.5 inches.
- B. Protective Coatings: As specified for posts.
- C. Color Coating: ASTM F1043, minimum 10-mil thickness over zinc coating to match color of chain link fabric.
- D. Strength and Stiffness Requirements: ASTM F1043, top rail, heavy industrial fence.

2.5 FENCE FITTINGS

- A. General: In conformance with ASTM F626, except as modified by this article. Post
- B. and Line Caps: Designed to accommodate passage of top rail through cap, where top rail required.
- C. Tension and Brace Bands: No exceptions to ASTM F626.
- D. Tension Bars:
  - 1. One-piece
  - 2. Length not less than 2 inches shorter than full height of chain link fabric.
  - 3. Provide one bar for each gate and end post, and two for each corner and pull post.
- E. Truss Rod Assembly: 3/8-inch diameter, steel, hot-dip galvanized after threading rod and turnbuckle or other means of adjustment.
- F. Tie Wires, Clips, and Fasteners: According to ASTM F626.

- G. Barbed Wire Supporting Arms: Pressed steel or Aluminum Alloy 36 with clips, slots, or other means for attaching strands of barbed wire integral with post cap for each post, with single vertical arms for supporting one strand of barbed wire. Arms shall withstand 250 pounds of downward pull at outermost ends of the arms without failure.

## 2.6 TENSION WIRE

- A. Zinc-coated steel marcelled tension wire conforming to ASTM A824 C, Type I.

## 2.07 BARBED WIRE

- A. Zinc-Coated Barbed Wire: ASTM A121, Chain Link Fence Grade:
- B. Aluminum-Coated Steel Barbed Wire: ASTM A121, Type I.

- 1. Line Wire: Single strand of No. 12-1/2 gauge.
- 2. Barbs:
  - a. Number of Points: Four.
  - b. Length: 3/8 inch minimum.
  - c. Shape: Round.
  - d. Diameter: No. 14 gauge.
  - e. Spacing: 5 inches.

## 2.8 GATES

- A. General:
  - 1. Gate Operation: Opened and closed easily by one person.
  - 2. Metal Pipe and Tubing: Galvanized steel. Comply with ASTM F1043 and ASTM F1083 for materials and protective coatings.
  - 3. Frames and Bracing: Fabricate members from round galvanized steel tubing with outside dimension and weight according to ASTM F900.
  - 4. Gate leaves more than 8-feet wide shall have intermediate tubular members and diagonal truss rods to provide rigid construction, free from sag or twist.
  - 5. Gate Fabric Height: Same as for adjacent fence height.
  - 6. Welded Steel Joints: Paint with zinc-based paint.
  - 7. Chain Link Fabric: Attached securely to gate frame at intervals not exceeding 15 inches.
  - 8. Gate Posts and Frame Members: Extend gateposts and frame end members above top of chain-link fabric at both ends of gate frame to attach barbed wire assemblies.

9. Latches: Arranged for padlocking so padlock will be accessible from both sides of gate.

**B. Swing Gates: Comply with ASTM F900 for double swing gate types.**

1. Leaf Width: As shown in the design plans.
2. Hinges: Offset type, malleable iron.
  - a. Furnished with large bearing surfaces for clamping in position.
  - b. Designed to swing either 180 degrees outward, 180 degrees inward, or 90 degrees in or out, as shown, and not twist or turn under action of gate.
3. Latches: Plunger bar arranged to engage stop, except single gates of openings less than 10 feet wide may each have forked latch.
4. Gate Stops: Mushroom type or flush plate with anchors, suitable for setting in concrete.
5. Locking Device and Padlock Eyes: Integral part of latch, requiring one padlock for locking both leaves of double gate.
6. Hold-Open Keepers: Designed to automatically engage gate leaf and hold it in open position until manually released.

**C. Rolling Gate:**

1. Track Rollers: Malleable iron or heavy pressed steel with provision for grease lubrication.
2. Ground Rollers: Malleable iron or heavy pressed steel with provision for grease lubrication.
3. Support Posts: Spaced on maximum 7-foot centers.
4. Gates more than 8 feet in height shall have three tracks.
5. Frames: ASTM F1184, Type I.
6. Gate Accessories: ASTM F1184.

**2.9 CONCRETE**

- A. Materials: ASTM C387, packaged, dry, combined ingredients with Type I cement.
- B. Mixing: In a clean metal container, mix package of dry materials by hand or machine. Following manufacturer's instructions, add clean water in sufficient quantity to produce a slump of 2 inches to 3 inches.

**2.10 FENCE GROUNDING**

- A. Conductors: Bare, solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.

1. Material above Finished Grade: Copper.
  2. Material on or below Finished Grade: Copper.
  3. Bonding Jumpers: Braided copper tape, 1-inch wide, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.
- B. Connectors and Grounding Rods: Comply with UL 467.
1. Connectors for Below-Grade Use: Exothermic welded type.
  2. Grounding Rods: Copper-clad steel.

### **PART 3 EXECUTION**

#### **3.1 GENERAL**

- A. Install chain link fences and gates in accordance with ASTM F567, except as modified in this section, and in accordance with fence manufacturer's recommendations, as approved by Engineer. Erect fencing in straight lines between angle points.
- B. Provide necessary hardware for a complete fence and gate installation.
- C. Any damage to galvanized surfaces, including welding, shall be repaired with paint containing zinc dust in accordance with ASTM A780.
- D. Drainage Crossings: Where the chain-link fence must cross drainage ditches or swales, the main fence shall be carried across a ditch or swale with additional fence added below.
1. Frames and Bracing: The fence added below shall be fabricated with galvanized round steel pipe conforming to the requirements for top and brace rails.
  2. The construction of the frame shall be welded or assembled with corner fittings. The frame shall be rigid and to the extent necessary to maintain a 2-inch clearance between bottom of the frame and finish grade. If necessary to maintain rigidity, attach to the frame a series of 3/8-inch diameter galvanized steel pipe stakes that are embedded a minimum of 2 feet to the sides and bottom of the ditch.
  3. Attach chain link fabric securely to frame at intervals not exceeding 12 inches.

#### **3.2 PREPARATION**

- A. Clear area on either side of fence to the extent specified in Section 31 10 00, Site Clearing. Eliminate ground surface irregularities along fence line to the extent necessary to maintain a 2-inch clearance between bottom of fabric and finish grade.

- B. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

### 3.3 POST SETTING

- A. Drill or hand-excavate holes for posts to diameters and spacing indicated, in firm, undisturbed soil. Driven posts are not acceptable. Postholes shall be clear of loose materials. Waste materials from postholes shall be removed from Site or regraded into slopes on Site.
- B. Posthole Depth:
  - 1. Minimum 3 feet below finished grade.
  - 2. 2 inches deeper than post embedment depth below finish grade.
- C. Set posts with minimum embedment below finished grade of 34 inches and with top rail at proper height above finished grade. Verify posts are set plumb, aligned, and at correct height and spacing. Brace posts, as necessary, to maintain correct position and plumbness until concrete sets.
- D. Backfill postholes with concrete to 2 inches above finished grade. Vibrate or tamp concrete for consolidation. Protect above ground portion of posts from concrete splatter.
- E. Before concrete sets, crown and finish top of concrete to readily shed water.
- F. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.
- G. Line Posts: Space line posts uniformly at 10 feet on centers between terminal end, corner, and gate posts.

### 3.4 POST BRACING

- A. Install according to ASTM F567, maintaining plumb position, and alignment of fencing. Install braces at gate, end, pull, and corner posts diagonally to adjacent line posts to ensure stability. Install braces on both sides of corner and pull posts.
  - 1. Locate horizontal braces at mid-height of fabric or higher, on fences with top

rail, and 2/3-fabric height on fences without top rail. Install so posts are plumb when diagonal truss rod assembly is under proper tension.

3.5 TOP RAILS

- A. Install according to ASTM F567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps and terminating into rail end attached to posts or posts caps fabricated to receive rail at terminal posts. Install top rail sleeves with springs at 105 feet maximum spacing to permit expansion in rail.

3.6 BARBED WIRE SUPPORTING ARMS

- A. Barbed wire supporting arms shall be installed as indicated and as recommended by manufacturer. Bolt or rivet supporting arm to top of post in a manner to prevent easy removal with hand tools. Angle single arms to outside of fence.

3.7 TENSION WIRE

- A. Install according to ASTM F567 and ASTM F1916, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with tie wires at a maximum spacing of 24 inches on center.
- B. Install tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.

3.8 CHAIN LINK FABRIC

- A. Do not install fabric until concrete has cured minimum 7 days.
- B. Apply fabric to outside of enclosing framework. Pull fabric taut to provide a smooth and uniform appearance free from sag, without permanently distorting fabric diamond or reducing fabric height. Tie fabric to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.
- C. Splicing shall be accomplished according to ASTM F1916 by weaving a single picket into the ends of the rolls to be joined.
- D. Leave 2 inches between finish grade or surface and bottom selvage, unless otherwise indicated.
- E. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches on center.

- F. Tie Wires: Fasten ties to wrap a full 360 degrees around rail or post and a minimum of one complete diamond of fabric. Twist ends of tie wire three full twists, and cut off protruding ends to preclude untwisting by hand.
  - 1. Maximum Spacing: Tie fabric to line posts at 12 inches on center and to brace and top rails at 24 inches on center.

### 3.9 BARBED WIRE

- A. Install barbed wire uniformly in configurations of a single strand of barbed wire on supporting arms. Pull wire taut and install securely to supporting arms and secure to end terminal post or terminal arms.

### 3.10 GATES

- A. Install gates according to manufacturer's written instructions, level, plumb and secure for full opening without interference. Attach fabric and hardware to gate using tamper-resistant or concealed means. Adjust hardware for smooth operation and lubricate where necessary so gates operate satisfactorily from open or closed position.
- B. Set gate stops in concrete to engage center drop rod or plunger bar.

### 3.11 ELECTRICAL GROUNDING

- A. Ground fences at a maximum interval of 1,000 feet in accordance with applicable requirements of IEEE C2, National Electrical Safety Code.
- B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a maximum distance of 150 feet on each side of crossing.
- C. Grounding Method: At each grounding location, drive a grounding rod vertically until top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at grounding location.

### 3.12 FIELD QUALITY CONTROL

- A. Post and Fabric Testing: Test fabric tension and line post rigidity according to ASTM F1916.
- B. Gate Tests:
  - 1. Prior to acceptance of installed gates, demonstrate proper operation of gates

under each possible open and close condition specified.

2. Adjust gate to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range.
3. Confirm that latches and locks engage accurately and securely without forcing and binding.

3.13 CLEANUP

- A. Remove excess fencing materials and other debris from Site.

**END OF SECTION**

2. Sand-Sized Fraction: Minimum 20 to 60 percent passing No. 10 sieve.
  3. Silt and Clay-Sized Fraction: Minimum 35 to 70 percent.
- C. Organic Matter: Minimum 1.5 percent by dry weight as determined in accordance with ASTM D2974.
- D. pH: Range 5.0 to 7.0.
- E. Textural Amendments: Amend as necessary to conform to required composition by incorporating sand, peat, manure, or sawdust.
- F. Source: **[A: Stockpile material onsite, in accordance with Section 31 10 00, Site Clearing.] [B: Import topsoil [C: if onsite material is insufficient in quantity].]**

2.02 LIME

- A. Composition: Ground limestone with not less than 85 percent total carbonates, ASTM C602.
- B. Gradation:
1. Minimum 50 percent passing No. 100 sieve.
  2. Minimum 90 percent passing No. 20 sieve.
  3. Coarser material acceptable provided rates of application are increased proportionately on basis of quantities passing No. 100 sieve.

2.03 SOIL ADDITIVES

- A. Sawdust or Ground Bark:
1. Nontoxic, of uniform texture, and subject to slow decomposition when mixed with soil.
  2. Nitrogen-treated, or if untreated mix with minimum 0.15 pound of ammonium nitrate or 0.25 pound of ammonium sulfate per cubic foot of loose material.
- B. Peat:
1. Composition: Natural residue formed by decomposition of reeds, sedges, or mosses in a freshwater environment, free from lumps, roots, and stones.
    - a. Organic Matter: Not less than 90 percent on a dry weight basis as determined by ASTM D2974.
    - b. Moisture Content: Maximum 65 percent by weight at time of delivery.
- C. Fertilizer:
1. Natural:
    - a. Manure:
      - 1) Well-rotted, stable or cattle manure, free from weed seed and refuse.
      - 2) Maximum 50 percent sawdust or shavings by volume.
      - 3) Age: Minimum 4 months; maximum 2 years.

- 2. Commercial: **[A: ]**.
  - a. Commercial, uniform in composition, free-flowing, suitable for application with equipment designed for that purpose.
  - b. Contain the following minimum percentage of plant food by weight:
    - 1) Summer Mix:
      - a) Nitrogen: **[B: 20] [C: ]** percent.
      - b) Phosphoric Acid: **[D: 10] [E: ]** percent.
      - c) Potash: **[F: 10] [G: ]** percent.
    - 2) Winter Mix:
      - a) Nitrogen: **[H: 16] [I: ]** percent.
      - b) Phosphoric Acid: **[J: 8] [K: ]** percent.
      - c) Potash: **[L: 0] [M: ]** percent.

- D. Sand: **[A: Fine Aggregate: Clean, coarse, well-graded, ASTM C33/C33M.]**  
**[B: Fine Aggregates as specified in Section 03 30 00, Cast-in-Place Concrete.]**

2.04 SOIL STERILANT

- A. **[A: Granular Calcium Cyanamide: Herbicide, manufactured by American Cyanamide Co.]**
- B. **[A: Vapam: [B: ].]**

2.05 SOURCE QUALITY CONTROL

- A. Topsoil Analysis/Testing: Performed by county or state soil testing service or approved certified independent testing laboratory.

**PART 3 EXECUTION**

3.01 SUBGRADE PREPARATION

- A. Apply **[A: lime]** at the rate of **[B: 50 pounds per 1,000 square feet] [C: ]** to subgrade before tilling.
- B. Scarify subgrade to minimum depth of 6 inches where topsoil is to be placed.
- C. Remove stones over 2-1/2 inches in any dimension, sticks, roots, rubbish, and other extraneous material.
- D. Limit preparation to areas which will receive topsoil within **[A: 2] [B: ]** days after preparation.

3.02 TOPSOIL PLACEMENT

- A. Do not place topsoil when subsoil or topsoil is frozen, excessively wet, or otherwise detrimental to the Work.

- B. Mix soil amendments, lime, and other soil additives, identified in analysis reports with topsoil before placement or spread on topsoil surface and mix thoroughly into entire depth of topsoil before planting or seeding. Delay mixing of fertilizer if planting or seeding will not occur within 3 days.
- C. Place one-half of the total depth of topsoil and work into top 4 inches of subgrade soil to create a transition layer. Place remainder of topsoil to depth **[A: as shown] [B: of [C: 6 inches] [D: ]]** where seeding and planting are scheduled.
- D. Uniformly distribute to within 1/2 inch of final grades. Fine grade topsoil eliminating rough or low areas and maintaining levels, profiles, and contours of subgrade.
- E. Remove stones exceeding 1-1/2-inch diameter, roots, sticks, debris, and foreign matter during and after topsoil placement.
- F. Remove surplus subsoil and topsoil from Site. Grade stockpile area as necessary and place in condition acceptable for planting or seeding.

**END OF SECTION**

**SECTION 33 05 31.13**

**POLYVINYL CHLORIDE PRESSURE PIPE**

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Polyvinyl chloride pressure pipe for water distribution in nominal diameters 4 inches through 16 inches.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.
  - 1. No separate payment will be made for PVC pipe under this section. Include cost in unit price for work included as specified in Section 33 11 00 - Water Main.

1.03 REFERENCES

- A. ANSI A21.5 (AWWA C 105) - Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids.
- B. ANSI A21.10 (AWWA C 110) - Ductile-Iron and Gray-Iron Fittings, 3 inches through 48 inches for Water and Other Liquids.
- C. ANSI A21.11 (AWWA C 111) - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
- D. ASTM D 1248 - Standard Specification for Polyethylene Plastics Molding and Extrusion Materials.
- E. ASTM D 1784 - Standard Specification for Rigid Polyvinyl Chloride Compound and Chlorinated Polyvinyl Chloride Compounds.
- F. ASTM D 2241 - Standard Specification for Polyvinyl Chloride Plastic Pipe (SDR-PR).
- G. ASTM D 2321 - Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.
- H. ASTM D 2444 - Test Method for Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight).
- I. ASTM D 2680 - Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Polyvinyl Chloride Composite Sewer Piping.
- J. ASTM D 3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
- K. ASTM D 3212 - Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
- L. ASTM F 477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

- M. AWWA C 900 - Polyvinyl Chloride Pressure Pipe, 4 Inches Through 12 Inches for Water Distribution.
  - N. AWWA C 905 - Polyvinyl Chloride Water Transmission Pipe, Nominal Diameters 14 Inches Through 36 Inches.
  - O. PPI TR3 - Policies and Procedures for Developing Recommended Hydrostatic Design Stresses for Thermoplastic Pipe Materials.
  - P. UNI-B-11 - Recommended Standard Specification for Polyvinyl Chloride Water Transmission Pipe (Nominal Diameters 14 Inches through 36 Inches).
  - Q. UNI-B-13 - Recommended Standard Performance Specification for Joint Restraint Devices for Use with Polyvinyl Chloride Pipe.
- 1.04 SUBMITTALS
- A. Conform to requirements of Section 01 33 00 - Submittal Procedures.
  - B. Submit shop drawings showing design of new pipe and fittings indicating alignment and grade, laying dimensions, fabrication, fittings, flanges, and special details.
- 1.05 QUALITY CONTROL
- A. Submit manufacturer's certifications that PVC pipe and fittings meet requirements of this Section and AWWA C 900, AWWA C909 or AWWA C 905 for pressure pipe applications.
  - B. Submit manufacturer's certification that PVC pressure pipe has been hydrostatically tested at the factory in accordance with AWWA C 900, AWWA C909 or AWWA C 905 and this Section.
  - C. No foreign manufactured material is allowed. American Made Only.
- PART 2 PRODUCTS
- 2.01 MATERIAL
- A. Use PVC compounds in the manufacture of pipe that contain no ingredient in an amount that has been demonstrated to migrate into water in quantities considered to be toxic.
  - B. Provide pipe which is homogeneous throughout, free of voids, cracks, inclusions, and other defects, uniform as commercially practical in color, density, and other physical properties. Deliver pipe with surfaces free from nicks and scratches with joining surfaces of spigots and joints free from gouges and imperfections which could cause leakage.
  - C. For PVC pressure pipe used for water mains, provide self-extinguishing PVC pipe that bears Underwriters' Laboratories mark of approval and is acceptable without penalty to Texas State Fire Insurance Committee for use in fire protection lines.

D. Gaskets:

1. Gaskets shall meet the requirements of ASTM F 477. Use elastomeric factory-installed gaskets to make joints flexible and watertight.
2. Pipes to be installed in potentially contaminated areas, especially where free product is found near the elevation of the proposed sewer, shall have the following gasket materials for the noted contaminants.

CONTAMINANT	GASKET MATERIAL REQUIRED
Petroleum (diesel, gasoline)	Nitrile Rubber
Other contaminants	As recommended by the pipe manufacturer

3. Do not use PVC gasket material for water mains in potentially contaminated areas.

E. Lubricant for rubber-gasketed joints: Water soluble, non-toxic, non-objectionable in taste and odor imparted to fluid, non-supporting of bacteria growth, having no deteriorating effect on PVC or rubber gaskets.<sup>2</sup>

F. PVC pipe for water service shall bear National Sanitation Foundation Seal of Approval (NSF-PW).

2.02 WATER SERVICE PIPE

- A. Pipe 6-inch through 12-inch: AWWA F1483 Ultra-Blue Class 200 Molecularly Oriented Polyvinyl Chloride (PVCO); nominal 20-foot lengths; steel pipe equivalent outside diameters. All waterline piping shall be the color WHITE.
- B. Pipe 16-inch: Ultra-Blue AWWA C-909 Molecularly Oriented Polyvinyl Chloride (PVCO); nominal 20-foot lengths; cast-iron equivalent outside diameter. All waterline piping shall be the color WHITE.
- C. Pipe 8 through 12-inch: Certain Teed Certalok Yelomine SDR21 Class 200 (ASTM D2241) RJ Restrained Joint PVC Pipe; nominal 20-foot lengths; steel pipe equivalent outside diameters.
- D. Pipe 16-inch: Certain Teed Certalok DR25 C905 RJ Restrained Joint PVC Pipe; nominal 20-foot lengths; steel pipe equivalent outside diameters.
- E. Pipe 6-inch through 12-inch: Fusible AWWA C-900 DR-25 PVC; nominal 20, 30, or 40-foot lengths; steel pipe equivalent outside diameters.
- F. Pipe 14-inch through 36-inch: Fusible AWWA C-905 DR-25 PVC; nominal 20, 30, or 40-foot lengths; steel pipe equivalent outside diameters.
- G. Joints: ASTM D 3139; push-on type joints in integral bell or separate sleeve couplings. Do not use socket type or solvent weld type joints.

- H. Make curves and bends by deflecting the joints. Do not exceed maximum deflection recommended by the pipe manufacturer. Submit details of other methods of providing curves and bends for review by Engineer.
  - I. Hydrostatic Test: AWWA C 909, ASTM D-1598, ASTM 2241, AWWA C 905, ANSI A 21.10 (AWWA C 110); at point of manufacture; submit manufacturer's written certification.
- 2.03 BENDS AND FITTINGS FOR PVC PRESSURE PIPE
- A. Bends and Fittings: ANSI A 21.10, ductile iron as shown on the drawings; minimum 160 psi pressure rating.
  - B. Coatings and Linings: Conform to requirements of Section 33 11 13.13 - Ductile-Iron Pipe and Fittings.

PART 3 EXECUTION

3.01 PROTECTION

- A. Store pipe under cover out of direct sunlight and protect from excessive heat or harmful chemicals in accordance with the manufacturer's recommendations.

3.02 INSTALLATION

- A. Conform to requirements of Section 33 11 00 - Water Mains, as applicable.
- B. Install PVC pipe in accordance with Section 31 23 33 - Excavation and Backfill for Utilities, ASTM D 2321, and manufacturer's recommendations.
- C. Water service pipe 12 inches in diameter and smaller: Installed to clear utility lines and have minimum 4 feet of cover below lowest property line grade of street, unless otherwise required by Drawings.
- D. For water service, exclude use of PVC within 200 feet (along the public right-of-way) of underground storage tanks or in undeveloped commercial acreage. Underground storage tanks are primarily located on service stations but can exist at other commercial establishments.
- E. Avoid imposing strains that will overstress or buckle the pipe when lowering pipe into trench.
- F. Hand shovel pipe bedding under the pipe haunches and along the sides of the pipe barrel and compact to eliminate voids and ensure side support.
- G. Detectable warning metallic tape with "Waterline Below" shall be buried above pipe at a depth of 18 inches below finished grade for surface locating purposes. The width of the metallic tape shall be 6-inches wide as manufacturer by Presco Detectable Warning Tape or approved equal.

END OF SECTION

**SECTION 33 05 33**

**POLYETHYLENE WRAP**

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Polyethylene wrap to be used in open-cut construction for galvanized steel, cast iron and ductile iron pipe, valves, and fittings when cathodic protection system is not required by Drawings.

1.02 MEASUREMENT AND PAYMENT

- A. There shall be no separate payment for work covered under this section. All costs associated with this item shall be included as subsidiary to other items included in the bid schedule.

1.03 REFERENCE

- A. ASTM D 1248 - Polyethylene Plastics Molding and Extrusion Materials.
- B. AWWA C 105 - Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids.

1.03 SUBMITTALS

- A. Submit product data in accordance with Section 01 33 00 - Submittal Procedures.

PART 2 P R O D U C T S

2.01 MATERIALS

- A. Polyethylene Film: Tubular or sheet form without tears, breaks, holidays, or defects; conforming with requirements of AWWA C 105, 2.5 to 3 percent carbon black content, either low- or high-density:

1. High-density, cross-laminated polyethylene film. High-density, cross laminated polyethylene film shall be manufactured of virgin polyethylene material conforming to the following requirements of ASTM D 1248

- a. Raw material.
  - (1) Type: III
  - (2) Class: C (black)
  - (3) Grade: P33
  - (4) Flow rate (formerly melt index): 0.4 to 0.5g/10 minute, maximum
  - (5) Dielectric strength: Volume resistivity,  $10^{15}$  ohm-cm, minimum
- b. Physical properties.
  - (1) Tensile strength: 5000 psi, minimum
  - (2) Elongation: 100 percent, minimum
  - (3) Dielectric strength: 800 V/mil thickness, minimum
- c. Thickness: Film shall have a nominal thickness of 0.004 inch. The minus tolerance of thickness is 10 percent of the nominal thickness.

B. Polyethylene Tape: Provide 3-inch-wide, plastic-backed, adhesive tape; Paleocene No. 900, Scotchwrap No. 50, or approved equal.

### PART 3 EXECUTION

#### 3.01 PREPARATION

- A. Remove all soil, clay, mud, and cinders from metal surfaces prior to installation of polyethylene encasement. Prevent all soil or embedment material from becoming trapped between metallic surface and polyethylene.
- B. Fit polyethylene film to contour of pipe to effect a snug, but not tight fit; encase with minimum space between polyethylene and pipe. Allow sufficient slack in contouring to prevent stretching polyethylene where it bridges irregular surfaces, such as bell-spigot interfaces, bolted joints, or fittings, and to prevent damage to polyethylene due to backfilling operations. Secure overlaps and ends with adhesive tape to hold polyethylene encasement in place until backfilling operations are complete.
- C. For installations below water table or in areas subject to tidal actions, seal both ends of polyethylene tube with nylon string at joint overlap.

#### 3.02 INSTALLATION

- A. Tubular Type (Method A):
  - 1. Cut polyethylene tube to a length approximately 2 feet longer than pipe section. Slip tube around pipe, centering tube to provide 1-foot overlap on each adjacent pipe section, and bunching it accordion-fashion lengthwise until it clears pipe ends.
  - 2. Lower pipe into trench and make up pipe joint with preceding section of pipe. Make shallow bell hole at joints to facilitate installation of polyethylene tube.
  - 3. After assembling pipe joint, make overlap of polyethylene tube. Pull bunched polyethylene from preceding length of pipe, slip it over end of adjoining length of pipe,

and secure in place. Then slip end of polyethylene from adjoining pipe section over end of first wrap until it overlaps joint at end of preceding length of pipe. Secure overlap in place. Take up slack width at top of pipe to make a snug, but not tight, fit along barrel of pipe, securing fold at quarter points.

4. Repair cuts, tears, punctures, or other damage to polyethylene. Proceed with installation of next section of pipe in same manner.

B. Tubular Type (Method B):

1. Cut polyethylene tube to a length approximately 1 foot shorter than pipe section. Slip tube around pipe, centering it to provide 6 inches of bare pipe at each end. Take up slack width at top of pipe to make a snug, but not tight, fit along barrel of pipe, securing fold at quarter points; secure ends.
2. Before making up joint, slip 3-foot length of polyethylene tube over end of preceding pipe section, bunching in accordion-fashion lengthwise. After completing joint, pull 3-foot length of polyethylene over joint, overlapping polyethylene previously placed on each adjacent section of pipe by at least 1 foot; make each end snug and secure.
3. Repair cuts, tears, punctures, or other damage to polyethylene. Proceed with installation of next section of pipe in same manner.

C. Sheet Type:

1. Cut polyethylene sheet to a length approximately 2 feet longer than pipe section. Center length to provide 1-foot overlap on each adjacent pipe section, bunching sheet until it clears pipe ends. Wrap polyethylene around pipe so that sheet circumferentially overlaps top quadrant of pipe. Secure cut edge of polyethylene sheet at intervals of approximately 3 feet.
2. Lower wrapped pipe into trench and make up pipe joint with preceding section of pipe. Make shallow bell hole at joints to facilitate installation of polyethylene. After completing joint, make overlap and secure ends.
3. Repair cuts, tears, punctures, or other damage to polyethylene. Proceed with installation of next section of pipe in same manner.

D. Pipe-shaped Appurtenances: Cover bends, reducers, offsets, and other pipe-shaped appurtenances with polyethylene in same manner as pipe.

E. Odd-shaped Appurtenances: When it is not practical to wrap valves, tees, crosses, and other odd-shaped pieces in tube, wrap with flat sheet or split length of polyethylene tube by passing sheet around appurtenance and encasing it. Make seams by bringing edges together, folding over twice, and taping down. Tape polyethylene securely in place at valve stem and other penetrations.

F. Openings in Encasement: Create openings for branches, service taps, blowoffs, air valves, and similar appurtenances by making an X-shaped cut in polyethylene and temporarily folding back film. After appurtenance is installed, tape slack securely to appurtenance and repair cut, as well as other damaged area in polyethylene, with tape. Service taps may also be made directly through polyethylene, with any resulting damaged areas being repaired as specified.

- G. Junctions between Wrapped and Unwrapped Pipe: Where polyethylene-wrapped pipe joins an adjacent pipe that is not wrapped, extend polyethylene wrap to cover adjacent pipe for distance of at least 3 feet. Secure end with circumferential turns of tape. Wrap service lines of dissimilar metals with polyethylene or suitable dielectric tape for minimum clear distance of 3 feet away from cast or ductile iron pipe.

3.03 REPAIRS

- A. Repair any cuts, tears, punctures, or damage to polyethylene with adhesive tape or with short length of polyethylene sheet or cut open tube, wrapped around pipe to cover damaged area, and secured in place.

END OF SECTION

**SECTION 33 11 13.13**  
**DUCTILE IRON PIPE AND FITTINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Ductile iron pipe and fittings for water mains, wastewater force mains, gravity sanitary sewers, and storm sewers.

1.02 DELETED

1.03 REFERENCES

- A. ANSI A 21.4 (AWWA C 104) - Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings, for Water and Other Liquids.
- B. ANSI A 21.10 (AWWA C 110) - Ductile-Iron and Gray-Iron Fittings, 3-in. through 48-in., for Water and Other Liquids.
- C. ANSI A 21.11 (AWWA C 111) - Rubber Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
- D. ANSI A 21.15 (AWWA C 115) - Flanged Ductile-Iron Pipe with Threaded Flanges.
- E. ANSI A 21.50 (AWWA C 150) - Thickness Design of Ductile-Iron Pipe.
- F. ANSI A 21.51 (AWWA C 151) - Ductile-Iron Pipe, Centrifugally Cast for Water and Other Liquids.
- G. ANSI A 21.53 (AWWA C 153) - Ductile Iron Compact Fittings, 3 inches through 24 inches and 54 inches through 64 inches for water service.
- H. ANSI B 16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
- I. ASTM D 1248 - Polyethylene Plastics Molding and Extrusion Materials.
- J. ASTM G 62 - Test Methods for Holiday Detection in Pipeline Coatings.
- K. AWWA C 600 - Standard for Installation of Ductile Iron Water Mains and Their Appurtenances.
- L. SSPC-SP 6 - Steel Structures Painting Council, Commercial Blast Cleaning.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 Submittal Procedures.
- B. Submit shop drawings showing design of pipe and fittings indicating alignment and grade, laying dimensions, fabrication, fitting, flange, and special details. Show station numbers for pipe and fittings corresponding to Drawings. Production of pipe and fittings prior to review by the Engineer is at Contractor's risk.

1.05 QUALITY CONTROL

- A. Provide manufacturer's certifications that all ductile iron pipe and fittings meet provisions of this Section and have been hydrostatically tested at factory and meet requirements of ANSI A 21.51.
- B. Provide certifications that all pipe joints have been tested and meet requirements of ANSI A 21.11.

PART 2 PRODUCTS

2.01 DUCTILE IRON PIPE

- A. Ductile Iron Pipe Barrels: ANSI A 21.15, ANSI A 21.50 or ANSI A 21.51; bear mark of Underwriters' Laboratories approval; minimum thickness Class 51 for water mains and Class 52 for sanitary sewers, or as shown on Drawings. Provide minimum thickness Class 53 for flanged pipe.
- B. Provide pipe sections in standard lengths, not less than 18 feet long, except for special fittings and closure sections as indicated on shop drawings.

2.02 JOINTS

- A. Joint Types: ANSI A 21.11 push-on; ANSI A 21.11 mechanical joint; or ANSI A 21.15 flanged end. Provide push-on joints unless otherwise indicated on the Drawings or required by these specifications. For bolted joints, bolts shall be 304 or 316 stainless steel only.
- B. Where restrained joints for buried service are required by Drawings, provide one of the following, or equal:
  - 1. Super-Lock Joint by Clow Corporation.
  - 2. Flex-Ring or Lok-Ring by American Cast Iron Pipe Company.
  - 3. TR-Flex Joint by U.S. Pipe and Foundry Company.

- C. Threaded- or grooved-type joints which reduce pipe wall thickness below minimum required are not acceptable.
- D. Provide for restrained joints designed to meet test pressures required under Section 33 11 00 - Water Mains or Section 33 31 00 Sanitary Utility Sewerage , as applicable.
- E. Where ductile iron water main is cathodically protected from corrosion, bond rubber gasketed joints as shown on Drawings to provide electrical continuity along entire pipeline, except where insulating flanges are required by Drawings.

**2.03 GASKETS:**

- A. Furnish, when no contaminant is identified, plain rubber (SBR) gasket material; for flanged joints 1/8-inch-thick gasket in accordance with ANSI A 21.15.
- B. Pipes to be installed in potentially contaminated areas, especially where free product is found near the elevation of the proposed pipeline, shall have the following gasket materials for the noted contaminants:

<b>Contaminant</b>	<b>Gasket Material Required</b>
Petroleum (diesel, gasoline)	Nitrile Rubber
Other contaminants	As recommended by the pipe manufacture

**2.04 FITTINGS**

- A. Use fittings of same size as pipe. Reducers are not permitted to facilitate an off-size fitting. Reducing bushings are also prohibited. Make reductions in piping size by reducing fittings. Line and coat fittings as specified for pipe they serve.
- B. Push-on Fittings: ANSI A 21.10; ductile iron ANSI A 21.11 joints, gaskets, and lubricants; pressure rated at 250 psig.
- C. Flanged Fittings: ANSI A 21.10; ANSI B 16.1 cast or ductile iron. Flanges: ANSI B 16.1, Class 125; pressure rated at 250 psig. Bolts shall be 304 or 316 stainless steel only.
- D. Mechanical Joint Fittings: ANSI A 21.11 (AWWA C 110); pressure rated at 250 psi. Bolts shall be 304 or 316 stainless steel only.
- E. Ductile Iron Compact Fittings for Water Mains: ANSI A 21.53; 4-inch through 12-inch diameter; cement-mortar lining; conform to requirements of Section 33 11 00 - Water Mains.

2.05 COATINGS AND LININGS

- A. Water Main Interiors: ANSI A21.4, cement lined with seal coat.
- B. Sanitary Sewer and Force Main Interiors:
  - 1. Preparation: Commercial blast cleaning conforming to SSPC-SP6.
  - 2. Liner thickness: Nominal 40 mils, minimum 35 mils, for pipe barrel interior; minimum 6 to 10 mils at gasket groove and outside spigot end to 6-inches back from end.
  - 3. Testing: ASTM G 62, Method B for voids and holidays; provide written certification.
  - 4. Acceptable Lining Materials:
    - a. Virgin polyethylene conforming to ASTM D 1248, with inert fillers and carbon black to resist ultraviolet degradation during storage heat bonded to interior surface of pipe and fittings; "Polyline" by American Cast Iron Pipe Company; or equal.
    - b. Polyurethane: Corro-pipe II by Madison Chemicals.
    - c. Ceramic Epoxy: Protecto-401 by Enduron Protective Coatings.
- C. Sanitary Sewer Point Repair Pipe: For pipes which will be lined with high density polyethylene liner pipe or cured-in-place liner, provide cement-lined with seal coat in accordance with ANSI A 21.4. For pipes which will not be provided with named liner, provide pipe as specified in Paragraph 2.05B, Sanitary Sewer and Force Main Interiors.
- D. Exterior: Prime coat and outside asphaltic coating conforming to ANSI A 21.10, ANSI A 21.15, or ANSI A 21.51 for pipe and fittings in open cut excavation and in casings.
- E. Polyethylene Wrap: For buried water lines and sanitary sewers, including point repairs, provide polyethylene wrap unless otherwise specified or shown. Provide polyethylene wrap for buried ductile iron pipe, including polyurethane coated pipe. Conform to requirements of Section 33 11 00 - Water Mains.
- F. For flanged joints in buried service, provide petrolatum wrapping system, Denso, or equal, for the complete joint and alloy steel fasteners. Alternatively, provide bolts made of Type 304 stainless steel.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Conform to installation requirements of Sections 33 11 00 - Water Mains, 33 31 00 - Sanitary Utility Sewerage Piping, except as modified in this Section.
- B. Install in accordance with AWWA C 600 and manufacturer's recommendations.
- C. Install all ductile iron pipe in polyethylene wrap, unless cathodic protection is provided. Do not use polyethylene wrap with a cathodic protection system.

3.02 GRADE

- A. Unless otherwise specified on Drawings, install ductile iron pipe for water service to clear utility lines with following minimum cover:

Diameter <u>(Inches)</u>	Depth of Cover <u>(Feet)</u>
16 and 24	5
12 and smaller	4

END OF SECTION

**SECTION 33 12 16.13**  
**TAPPING SLEEVES AND VALVES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tapping sleeves and valves for connections to existing water system.

1.02 DELETED

1.03 REFERENCES

- A. ANSI B 16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
- B. AWWA C 110 - Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and other Liquids.
- C. AWWA C 111 - Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
- D. AWWA C 200 - Steel Water Pipe 6 in. And Larger.
- E. AWWA C 207 - Steel Pipe Flanges for Waterworks Service - Sizes 4 in. through 144 in.
- F. AWWA C 500 - Gate Valves, 3 through 48 in. NPS, for Water and Sewage Systems.

1.04 SUBMITTALS

- A. Submit product data in accordance with requirements of Section 01 33 00 - Submittal Procedures.
- B. Submit results of tapping sleeves NPT test opening.
- C. Submit manufacturer's affidavit stating that valves for tapping into existing water lines conform to Section 40 05 61 - Gate Valves and to requirements of AWWA C 500 and that they have been satisfactorily tested in accordance with AWWA C 500.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Ship steel sleeves in wooden crates that provide protection from damage to epoxy coating during transport and storage.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

**A. Tapping Sleeves:**

1. Tapping Sleeve Bodies: Tapping valves will be Mueller SS Series Stainless Steel Service Saddle with all 304SS exterior bolts, or approved equal. Flange bolts must be 304 SS or 316 SS.
2. Branch Outlet of Tapping Sleeve:
  - a. Flanged, machined recess, AWWA C 207, Class D, ANSI 150 pound drilling.
  - b. Gasket: Affixed around recess of tap opening to prevent rolling or binding during installation.
3. Use cast iron split sleeve where fire service from 6-inch main is approved.

**B. Welded-steel tapping-sleeve bodies may be used in lieu of cast or ductile iron bodies for following sizes and with following restrictions:**

1. Flange: AWWA C 207, Class D, ANSI 150 pound drilling.
2. Gasket: Affixed around recess of tap opening to prevent rolling or binding during installation.
3. Steel sleeves are restricted to use on pipe sizes 6 inches and larger.
4. Body: Heavy, welded-steel construction; top half grooved to retain neoprene O ring seal permanently against outside diameter of pipe.
5. Bolts: AWWA C 500 Section 3.5; coated with 100 percent vinyl resin or corrosive resistant material.
6. Steel Sleeves Finish: Fusion-bonded epoxy coated to minimum 12 mil thickness.
7. Finished Epoxy Coat: Free of laminations and blisters; and remain pliant and resistant to impact with non-peel finish.
8. Steel tapping sleeves shall be Smith Blair No. 622, JCM No. 412, or approved equal.
9. Tapping Sleeves: Provide with 3/4-inch NPT test opening for testing prior to tapping. Provide 3/4-inch bronze plug for opening.

10. Do not use steel sleeves for taps greater than 75 percent of pipe diameter.
- C. Tapping Valves: Meet requirements of Section 40 05 61 - Gate Valves with following exceptions:
1. Inlet Flanges:
    - a. AWWA C 110; Class 125.
    - b. AWWA C 110; Class 150 and higher: Minimum 8-hole flange.
  2. Outlet: Standard mechanical or push-on joint to fit any standard tapping machine.
  3. Valve Seat Opening: Accommodate full-size shell cutter for nominal size tap without any contact with valve body; double disc.
- D. Valve Boxes: Standard A valve box conforming to requirements of Section 33 12 00 - Valve Boxes, Meter Boxes, and Meter Vaults.

### PART 3 EXECUTION

#### 3.01 APPLICATION

- A. Install tapping sleeves and valves at locations and of sizes shown on Drawings. Install sleeve so valve is in a horizontally level position.
- B. Clean tapping sleeve, tapping valve, and pipe prior to installation and in accordance with manufacturer's instructions.
- C. Hydrostatically test installed tapping sleeve to 150 psig for a minimum of 15 minutes. Inspect sleeve for leaks, and remedy leaks prior to tapping operation.
- D. When tapping concrete pressure pipe, size on size, use shell cutter one standard size smaller than water line being tapped.
- E. Do not use Large End Bell (LEB) increasers with a next size tap unless existing pipe is asbestos-cement.

#### 3.02 INSTALLATION

- A. Tighten bolts in proper sequence so that undue stress is not placed on pipe.
- B. Align tapping valve properly and attach to tapping sleeve.
- C. Make tap with sharp, shell cutter:

1. For 12-inch and smaller tap, use minimum cutter diameter one-half inch less than nominal tap size.
  2. For 16-inch and larger tap, use manufacturer's recommended cutter diameter.
- D. Withdraw coupon and flush cuttings from newly-made tap.
- E. Wrap completed tapping sleeve and valve in accordance with Section 33 11 00 - Water Mains.
- F. Place concrete thrust block behind tapping sleeve (not over tapping sleeve and valve).
- G. Request inspection of installation prior to backfilling.
- H. Backfill in accordance with Section 31 23 33 - Excavation and Backfill for Utilities.

END OF SECTION

**SECTION 33 31 00**

**SANITARY UTILITY SEWERAGE PIPING**

**PART 1 GENERAL**

**1.01 DESCRIPTION**

Under this section is included the furnishing, laying, jointing, and testing of all sewer pipe, including sewer pipe and sewer appurtenances, both in open cut and in tunnels, as shown on the drawings or as directed by the engineer.

**PART 2 PRODUCTS**

**2.01 MATERIAL**

**(A) Gravity Sewer Pipe**

1. Gravity sewer pipe may be of any of the following classifications. Any pipe found defective, not meeting the specifications, or improperly installed shall be rejected and so marked and shall be replaced by pipe approved by the engineer at no additional cost to Military Highway Water Supply Corporation.
  - a. Pipe and fittings shall be manufactured in conformance with the materials and methods described in ASTM Specification D-3034. Joint seals shall be compression type rubber gaskets in compliance with the requirements of ASTM Specification D-1869.
  - b. Pipe and fittings shall be manufactured in conformance with the materials and methods described in ASTM Specification F-789 and UNI-B-10. Gaskets shall comply with the requirements of ASTM Specification F-477.

**(B) Force Mains**

1. Pressure sewer pipe will be the following classification. Any pipe found defective, not meeting the specifications, or improperly installed shall be rejected and so marked and shall be replaced by pipe approved by the engineer at no additional cost to Military Highway Water Supply Corporation.
  - a. Polyvinyl chloride pipe for force mains shall conform to AWWA Standard "Polyvinyl Chloride (PVC) Pressure Pipe" C-900 - 750 Class 100 DR25 latest revision. Fittings for polyvinyl chloride (PVC) pipe shall be Ductile Iron Class 125 "Compact Fittings" short body, tar coated (not cement lined). Transition gaskets shall also be included, unless otherwise noted on the contract bid document or drawings.

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(C) Watertight Joint Materials

1. The contractor must exert every reasonable effort to secure a watertight joint and prevent infiltration of ground water into or exfiltration of sewage out of all pipe sewers and property service connections. To achieve this, joint material shall be made of the materials as specified herein, unless otherwise set forth in Special Provisions or Proposal. Any joint materials found to be defective or not meeting the specifications shall be rejected and replaced by approved joint materials at no additional cost to Military Highway Water Supply Corporation.

(D) Pipe Jointing

1. In laying the sewer pipe to line and grade, the pipe shall be jointed in accordance with one of the approved jointing methods. Military Highway Water Supply Corporation reserves the right, before construction is in progress, to change the type of joints if its engineer so directs.

(E) Polyvinyl Chloride Pipe (PVC) Jointing

1. The contractor shall make certain before jointing polyvinyl chloride pipe that the ring groove in the bell of the pipe is clean with no dirt or foreign material that could interfere with proper seating of the ring. Make sure pipe end is clean. Wipe with a clean dry cloth around the entire circumference from the end to one (1) inch beyond the reference mark. Lubricate the spigot end of the pipe, using only the lubricant supplied by the manufacturer. Be sure the entire circumference is covered. The coating shall be the equivalent of a brush coat of enamel paint. It can be applied by hand, cloth, pad, sponge, or glove. Do not lubricate the rubber ring or the ring groove in the bell because such lubricant could cause ring displacement. The level end is then inserted into the bell so that it is in contact with the ring. Brace the bell, while the level end is pushed in under the ring, so that previously completed joints in the line will not be closed up. The spigot end is pushed until the reference mark on the spigot end is flush with the end of the bell. If undue resistance to insertion of the level end is encountered or the reference mark does not reach the flush position, disassemble the joint and check the position of the ring. If it is twisted or pushed out of its seat, lean the ring, bell and level end and repeat the assembly steps.
2. Water stop joints shall be Polyvinyl Chloride (PVC) or other similar approved joint materials.

(F) SERVICE CONNECTIONS

1. Property service connections shall be installed using Polyvinyl Chloride Pipe (PVC). The pipe shall be SDR-35 and shall be manufactured in accordance with ASTM D-3034. The joints shall be compression type rubber gasket joints conforming to ASTM D-1869. The location of all laterals and service lines shall be shown on the plans. Where no approved street grade has been established, the depth of the connection shall be based on the assumed future street grade or on the present street or ground surface, as determined by the engineer. At times when pipe laying is not in process, the open ends of the pipe shall be closed by a watertight plug or other approved means. This provision shall apply during the noon hour as well as overnight. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

**PART 3 EXECUTION**

**3.01 CONSTRUCTION METHODS**

1. After the trench is excavated to a subgrade as specified, it shall be filled to grade with a minimum 6-inch gravel layer. This material shall be mechanically tamped to a density minimum of 90%. This material shall provide a smooth and uniform pipe bed for the entire length of the sewer pipe barrel. Ditching and pipe laying shall be uniformly in a straight line and to uniform elevations unless otherwise specified on the plans. Pipe and fittings shall be carefully handled to avoid

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damage. Before placing pipe into the trench, the outside of the spigot and the inside of the bell shall be wiped clean and dry, free from oil and grease. Every precaution shall be taken to prevent foreign material from entering the pipe. During layout operation, no debris, tools, clothing or other material shall be placed into the pipe. After placing a length of pipe into the trench, the spigot end shall be centered in the bell, the pipe forced home, brought to the correct alignment and covered with an approved backfill material. When the pipe is installed, metallic tape shall be buried as directed by the Military Highway Water Supply Corporation inspector, but no greater than 4' below the finished grade or less than 2' above the top of the pipe for location purposes.

2. Sewer Appurtenances - Appurtenances to the sewer shall be provided and laid in accordance with the drawings and in the manner as specified herein. Appurtenances in addition to those required by the drawings or the proposal, as approved or directed by the engineer, shall be paid for under the appropriate items of the proposal.
3. Branches and Fittings - Branches and fittings shall be provided and laid as and where directed. T-branches and Y-branches, placed in the sewer for property service connections, shall be located by the contractor, as directed by the engineer, at such points in the sewer so as to result in the property service connection having the shortest length possible between the sewer and property line or easement line, unless otherwise indicated on the drawing or directed by the engineer.
4. Stubs - Stubs for future sewer pipe shall be installed as indicated by the drawings. If the specified length of the stub is exceeded, there will be no additional cost to Military Highway Water Supply Corporation unless the extra length is ordered by the engineer. Existing sewer pipe stubs shall be removed as required, but only when directed by the engineer.
5. Stacks - Stacks shall be constructed as and where directed. The height of the stack shall be as indicated on the drawings, set forth in the proposal, as determined by the engineer. The stack shall be encased in-concrete in accordance with the "Typical Sewer Details" drawings.
6. Drop Inlets - Drop inlets to the manhole shall be constructed as and where indicated by the drawings of either of the types shown on the "Typical Sewer Details" drawings, as directed by the engineer.
7. Cleanouts - Cleanouts on all service laterals shall be installed at the location shown on the plans and in accordance with the Wastewater Construction Standards.
8. Manholes - Manholes shall be constructed as shown on the "Typical Sewer Details" drawings to the elevations shown on the plan-profile sheets, or as directed. The manholes specified shall be Glass Fiber-Reinforced Polyester Manholes for use in sanitary sewer applications. They shall be a one-piece unit of one class, fabricated in a composite laminate. Walls shall be of uniform thickness and shall be free from thin spots and voids. Exterior surface shall be free of ridges and sharp protrusions and reinforcement. Interior surface shall also be smooth and free of ridges so as to facilitate self-cleaning. The exterior surface shall be covered with graded sand to facilitate bonding to the concrete base pad, cement stabilized sand backfill and cement grout used to seal around all incoming lines. The main line over which the manhole cut-out will be set shall be fitted with a seal ring as manufactured by Johns-Manville Manufacturing or equal (as per ASTM C-923 requirements). The manholes shall be Containment Solutions, Inc. Flowtite Fiberglass Manholes or approved equal that conforms to ASTM D. 3753-81, Standard Specifications for Glass Fiber-- Reinforced Polyester Manholes and all noted applicable documents. The manufacturer shall submit written certification that their product meets the requirements of ASTM D. 3753-81 with test results of specified manholes included.
9. Stoppers and Bulkheads - Open ends of pipes and branches smaller than 15 inches in diameter shall be sealed with stoppers, cemented into place in an acceptable manner using a rubber gasket between the stopper and socket. Openings 15 inches in diameter and larger shall be closed with brick bulkheads at least 4 inches thick or by other approved methods as authorized.

All openings to the pipeline shall be satisfactorily protected from the entrance of earth, water or other material. If a temporary bulkhead is constructed to prevent sewage from backing into the trench excavation or to prevent foreign material from entering the sewer from the new sewer trench, the contractor shall be responsible for reconstructing, repairing, or replacing those portions of the existing sewers removed or damaged by his operations. Existing bulkheads shall be removed as indicated by the drawings or set forth in the proposal, but not until directed by the engineer.

### 3.02 EXECUTION

1. Air Testing - This shall cover the testing of completed sections of installed sewer pipe using low air pressure. The contractor shall conduct low air pressure tests on completed sections of sewer mains. The air test results will be used to evaluate materials and construction methods on the pipe line sections, and successful air tests shall be mandatory for the acceptance of the lines. The Contractor shall furnish all labor and material required to complete all testing required by this specification.
2. Material for Air Testing - The following materials will be furnished by the contractor and utilized for air testing sewer mains:
  - a. Compressor Air Supply: Any source which will provide at least three hundred (300) cubic feet per minute at one hundred (100) pounds per square inch. The compressor air supply shall be furnished by the contractor.
  - b. Plugs, valves, pressure gauges, air hose, connections and other equipment necessary to conduct the air test shall be furnished by the contractor. The test equipment for air testing will consist of valves, plugs, and pressure gauges used to control the rate at which air flows to the test section and to monitor the air pressure inside the plugs. Test equipment shall be assembled as follows:
    1. hose connection
    2. shut off valve
    3. throttle valve
    4. pressure reduction valve
    5. gauge cock
    6. monitoring pressure gauge
3. Test Procedures - The following procedures will be utilized for air testing sewer mains:
  - a. Determine section of line to be tested.
  - b. Apply air pressure until the pressure inside the pipe reaches 4 psig.
  - c. Allow the pressure inside the pipe to stabilize, then bleed back to 3.5 psig.
  - d. At 3.5 psig, the time, temperature and pressure will be observed and recorded. A minimum of five (5) readings will be required for each test. If the time in seconds for the air pressure to decrease from 3.5 psig to 2.5 psig is greater than that shown in the following table, the pipe shall be presumed to be free from defect. When these rates are exceeded, pipe breakage, joint leakage, or leaking plugs are indicated and an inspection must be made to determine the cause. The contractor shall effect such repairs as may be required to accomplish a successful air test.

**Table 1 Minimum Test Time for Various Pipe Sizes**

Nominal Pipe Size, in.	T(time) min/100 ft.	Nominal Pipe Size, in.	T(time) min/100 ft.
3	0.2	21	3.0
4	0.3	24	3.6
6	0.7	27	4.2
8	1.2	30	4.8
10	1.5	33	5.4
12	1.8	36	6.0
15	2.1	39	6.6
18	2.4	42	7.3

4. Leakage Test - A leakage test may be requested by the engineer at any time to determine whether or not there is excessive infiltration and to assure that the sewer section is substantially watertight. The engineer may order the contractor to make leakage tests of as many sections as may be necessary to determine whether the work complies with the criteria for the rate of leakage. A section shall consist of a reach from one manhole to the next manhole provided the manholes are at least 300 feet apart and preferably 400 feet. Leakage tests shall be conducted, and measurements made, for a minimum of one hour. The tests may be conducted over a longer period of time with no reduction in the rate of leakage.
  - a. Leakage into Sewer - Leakage into the sewer including manholes, shall not exceed a rate of 50 gallons per 24 hours per inch diameter per mile of sewer. There shall be no gushing or spurting streams entering the sewer or manhole and where encountered they shall be repaired regardless of the rate of infiltration at no additional cost to Military Highway Water Supply Corporation. Where practicable, the tests for leakage into the sewers shall be made at a time when the groundwater level is at a maximum, but it must be at least one foot above the top of the pipe of the highest elevation in the section being tested.
  - b. Leakage out of Sewer - Where the groundwater level is less than one foot above the top of the pipe and where conditions will permit, the sewers shall be subjected to an internal pressure by plugging the pipe at both ends and then filling the sewer and manholes with clean water to a height above the top of the pipe sufficient to obtain satisfactory measurements to determine the rate of leakage. The rate of leakage from the sewers may be determined by either the amount of subsidence in the water surface level of the amount of water required to maintain the original water surface level above the top of the pipe. Leakage from the sewers under test shall not exceed the requirement of leakage into sewers as specified in Section 4.7.1, except that an allowance of an additional 10 percent of gallonage shall be permitted for each additional 2 feet of head over a basic 2 foot minimum internal head.

- c. Requirements of the Contractor - The contractor shall construct such weirs or other means of measurements as may be required, shall furnish water and shall do all necessary pumping to enable the tests to be properly made. When a leakage test fails, the contractor shall do such other work as may be necessary until the rate of leakage meets the above requirements, as determined by additional leakage tests.

5. Deflection Testing for Gravity PVC Sewer Lines

- a. No sooner than 30 days, nor later than 12 months after the pipe has been installed and backfilling has been completed, tests for deflection will be made. A deflection of more than 5 percent of the inside diameter of the pipe shall be cause for rejection, and the line will be removed and replaced at the contractor's expense. A GO NO-GO Deflection Testing Mandrel, to be furnished by the contractor, and certified by the engineer, shall be used. The testing shall consist of the following:
  - 1. Completely flush the line, if required, making sure the pipe is clean of any mud or debris that would hinder the passage of the mandrel.
  - 2. During the final flushing of the line, attach a floating block or ball to the end of the mandrel pull rope and float the rope through the line.
  - 3. After the rope is threaded through the line, connect the pull rope to the mandrel and place the mandrel in the entrance of the rope.
  - 4. Connect a retrieval rope to the back of the mandrel to pull it back if necessary.
  - 5. Remove all slack in the pull rope and place a tape marker on the rope at the ends of the pipe where the mandrel will exit, determining the location of the mandrel in the line.
  - 6. Using manhole guide pulleys, draw mandrel through the sewer line, if any irregularity of pipe deformation exceeding the allowable 5 percent is encountered in the line, the line shall be uncovered at the point.
  - 7. If an obstructed or over-deflected section is found, locate it; dig down and uncover pipe; inspect the pipe; if any damaged pipe is found, replace it. If pipe is not damaged, re-round the pipe, replace and thoroughly tamp the embedment and initial backfill; replace remainder of backfill.
  - 8. Re-test this entire section for deflection.
  - 9. Any pipe removed shall be replaced by use of gasketed repair couplings. Each and every deflection test shall be conducted in the presence of the owner's or engineer's representative.
- b. The Contractor shall furnish all labor and material required to clean and flush and complete all testing required by this specification. The owner, at their discretion, may televise the sewer lines in lieu of the mandrel test. Televising equipment will be furnished by the owner. The contractor shall furnish labor to assist Military Highway Water Supply Corporation inspectors to operate televising equipment. Labor shall consist of a minimum of 2 persons. Televising work will normally be performed during other than normal working hours, including Saturdays and after 5 PM on weekdays.

If there are insufficient roadways within the project area, the contractor will furnish the equipment necessary to gain full access to the site.

6. Force Main Hydrostatic Testing

- a. After the pipe and appurtenance have been installed, test line and drain. Prevent damage to the Work or adjacent areas. Use clean water to perform tests.

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- b. The Utility Owner may direct tests of relatively short sections of completed lines to minimize traffic problems or potential public hazards.
- c. Test pipe in the presence of the Utility Owner.
- d. Test pipe at 150 psig or 1.5 times design pressure of the pipe, whichever is greater. Design pressure of the force main shall be the rated total dynamic head of the lift station pump.
- e. Test pipe at the required pressure for a minimum of 2 hours according to requirements of Uni-B-3.
- f. Maximum allowable leakage shall be as calculated by the following formula:

$$L = (S) (D) (P^{0.5}) / 133,200$$

Where: L = Leakage in gallons per hour.  
S = Length of pipe in feet.  
D = Inside diameter of pipe in inches.  
P = Pressure in pounds per square inch.

- g. Correct defects, cracks, or leakage by replacement of defective items or by repairs as approved by the Utility Owner.
- h. Plug openings in the force main after testing and flushing. Use cast iron plugs or blind flanges to prevent debris from entering the tested pipeline.

7. Pigging Test

- 1. After completion of hydrostatic testing and prior to final acceptance, test force mains longer than 200 feet by pigging to ensure piping is free of obstructions.
- 2. Pigs: Provide proving pigs manufactured of an open-cell polyurethane foam body, without any coating or abrasives which would scratch or otherwise damage interior pipe wall surface or lining. Pigs shall be able to pass through reductions of up to 65 percent of the nominal cross-sectional area of the pipe. Pigs shall be able to pass through standard fittings such as 45-degree and 90-degree elbows, crosses, tees, wyes, gate valves, or plug valves, as applicable to the force main being tested.
- 3. Test Execution: Pigging test shall be conducted in the presence of the Utility Owner. Provide at least 48-hours notice of scheduled pigging of the force main prior to commencing the test.

Part 4 MEASUREMENT AND PAYMENT

A. Unless prescribed elsewhere in the contract documents, Unit Prices as follows.

- 1. Payment for normal depth sanitary sewer, up to 8 feet deep, by open-cut or augered with or without casing is on a linear foot basis for each size of pipe. Depth is measured from bottom of the pipe to the proposed natural ground. Separate pay items are used for open-cut and augered installation. Unit Prices shall include all materials, fittings, testing and labor necessary to install the sanitary sewer.
- 2. Payment for extra depth sanitary sewer by open-cut or augered is on a unit price basis per vertical foot for each foot of depth greater than 8 feet. Depth is measured from bottom of the pipe to the proposed natural ground.

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3. Payment for normal depth manholes, up to 8 feet deep, is on a unit price basis for each manhole installed. Depth is measured from proposed top of cover to sewer invert. Unit Prices shall include all materials, fittings, testing and labor necessary to install the sanitary sewer manhole.
4. Payment for extra depth manholes is on a unit price basis per vertical foot for each foot of depth greater than 8 feet. Depth is measured from proposed top of cover to sewer invert.
5. Payment will be made for service connection at the unit price for each service connection installed for the various sizes itemized under this Section. Unit Prices shall include all materials, fittings, and labor necessary to install the service connection.
6. Payment for force mains installed by open-cut or augered with or without casing is on a linear foot basis for each size of pipe installed. Separate pay items are used for open-cut and augered installation. Unit Prices shall include all materials, fittings, testing and labor necessary to install the force main.

END OF SECTION

**SECTION 33 39 13**

**FRAMES, GRATES, RINGS, AND COVERS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Iron castings for manhole frames and covers, inlet frames and grates, catch basin frames and grates, meter vault frames and covers, adjustment rings, and extensions.
- B. Ring grates.

**1.02 REFERENCES**

- A. AASHTO - American Association of State Highway and Transportation Officials Standard Specification for Highway Bridges.
- B. ASTM A 48 - Specification for Gray Iron Castings.
- C. ASTM A 615 - Standard Specification for Deformed Billet-Steel Bars for Concrete Reinforcement.
- D. AWS - D 12.1 Welding Reinforcing Steel.

**1.03 SUBMITTALS**

- A. Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- B. Submit copies of manufacturer's specifications, load tables, dimension diagrams, anchor details, and installation instructions.
- C. Submit shop drawings for fabrication and installation of casting assemblies that are not included in Drawings. Include plans, elevations, sections and connection details. Show anchorage and accessory items. Include setting drawings for location and installation of castings and anchorage devices.

**PART 2 PRODUCTS**

**2.01 CASTINGS**

- A. Castings for frames, grates, rings and covers shall conform to ASTM A 48, Class 30. Provide locking covers if indicated on Drawings.
- B. Castings shall be capable of withstanding the application of an AASHTO H-20 loading without permanent deformation.
- C. Fabricate castings to conform to the shapes, dimensions, and with wording or logos shown on the Drawings. Standard dimensions for manhole covers are 32 inches in diameter.
- D. Castings shall be clean, free from blowholes and other surface imperfections. Cast holes in covers shall be clean and symmetrical, free of plugs.

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2.02 BEARING SURFACES

- A. Machine bearing surfaces between covers or grates and their respective frames so that even bearing is provided for any position in which the casting may be seated in the frame.

2.03 SPECIAL FRAMES AND COVERS

- A. Where indicated on the Drawings, provide watertight manhole frames and covers with a minimum of four bolts and a gasket designed to seal cover to frame. Supply watertight manhole covers and frames, Model R-1916H (32-inch cover diameter) manufactured by Neenah Foundry Company, Model V-2420 by Vulcan Foundry, or approval equal.
- B. Where shown on the Drawing, provide manhole frames and covers with 48-inch-diameter clear opening, with inner cover for 22-inch diameter clear opening. Provide inner cover with pattern shown on Drawings, Neenah Foundry, Model R-1741-F, Vulcan Foundry V-7, or approved equal.

2.04 FINISH

- A. Unless otherwise specified, coat iron castings with the manufacturer's standard asphaltic paint.

2.05 FABRICATED RING GRATES

- A. Ring grates shall be fabricated from reinforcing steel conforming to ASTM A 615.
- B. Welds connecting the bars shall conform to AWS D 12.1.

**PART 3 EXECUTION**

3.01 INSTALLATION

- A. Install castings according to approved shop drawings, instructions given in related specifications, and applicable directions from the manufacturer's printed materials.
- B. Set castings accurately at required locations to proper alignment and elevation. Keep castings plumb, level, true, and free of rack. Measure location accurately from established lines and grades. Brace or anchor frames temporarily in formwork until permanently set.
- C. Ring grates shall be fabricated in accordance to the Engineer, Ring Grate for Open End of 18" to 72" Stubs to Ditch, and shall be set in mortar in the mouth of the pipe bell.

END OF SECTION