GONZALES COUNTY RADIO COMMUNICATIONS SYSTEM IMPROVEMENTS GLO CONTRACT NO. 22-085-052-D305

GONZALES COUNTY, TEXAS

JUNE 2024

PREPARED FOR GONZALES COUNTY

PATRICK C. DAVIS K.O. "DELL" WHIDDON DONNIE R. BRZOZOWSKI KEVIN T. LA FLEUR COLLIE BOATRIGHT

COUNTY JUDGE PRECINCT 1 COMMISSIONER PRECINCT 2 COMMISSIONER PRECINCT 3 COMMISSIONER PRECINCT 4 COMMISSIONER







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TBPE F-417 TBPG F-50556 TBPLS F-10039500

Project ID: 20L0114 www.hanson-inc.com

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The <u>County of Gonzales</u> will receive bids for <u>Gonzales County Radio Communications System</u> <u>Improvements GLO Contract No. 22-085-052-D305</u> until **2:00 pm** on September 12, 2024, at the <u>County Judge's Office, 414 St. Joseph Street, Gonzales, Texas 78629</u>. Bids must be addressed to: The **Gonzales County Commissioners Court.** The bids will be publicly opened and read aloud at the <u>County Judge's Office</u> on September 12, 2024, at 2:00 pm at <u>414 St. Joseph</u> <u>Street, Gonzales, Texas 78629</u>.

The project consists of a P25 Phase 2 standards-based 700/800 MHz trunked radio system to provide greater county-wide communications coverage and message capacity. Components include: 3 new towers, 2 new shelters and 2 emergency backup generators, trunked radio network with geographically-redundant central control systems, interface with, or replacement of existing dispatch console equipment, and redundant IP-based microwave backhaul.

Bid and Contract documents, including Drawings and Technical Specifications are on file and available for inspection at the County of Gonzales, Gonzales County Commissioners Court, County Judge's Office, 414 St. Joseph Street, Gonzales, Texas. A pre-bid conference will be held on July 16, 2024, at the Gonzales Sheriff's Office Tower Site at **11:00 am** at 202 FM 532, Gonzales Texas 78629. The pre-bid conference is not mandatory.

Electronic copies of the Bid/Contract documents including drawings and technical specifications may be obtained at no charge via the internet at: <u>http://www.civcastusa.com/</u>. The project can be located on civcastusa.com by the bid date, the state (Texas) or the County (Gonzales County). Bidders will be required to register through CivCastUSA. There is no charge for registering or downloading the plans. Hard copies of plans may also be purchased through CivCastUSA at the bidder's expense.

A bid bond in the amount of 5 percent of the bid issued by an acceptable surety shall be submitted with each bid [for those contracts that exceed \$100,000]. A certified check or bank draft payable to <u>**County of Gonzales**</u> or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.

The project to be constructed will be financed with assistance from the General Land Office (GLO) under the U.S. Department of Housing and Urban Development Community Development Block Grant - Mitigation (CDBG-MIT) program and is subject to all applicable Federal and State laws and regulations. Attention is called to the fact that not less than, the federally determined prevailing Davis-Bacon and Related Acts wage rate, as issued by the Department of Labor and contained in the contract documents, must be paid on this project. In addition, the successful bidder must ensure that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

All contractors and subcontractors must be cleared (not suspended or debarred) prior to any formal action authorizing the award of a contract to the contractor. Minority Business Enterprises, Small Business Enterprises, Women Business Enterprises, and labor surplus area firms are encouraged to submit bids.

The <u>County of Gonzales</u> reserves the right to reject any or all bids or to waive any informalities in the bidding. Bids may be held by <u>the County of Gonzales</u> for a period not to exceed 90 days from the date of the bid opening for the purpose of reviewing the bids and investigating the bidder's qualifications prior to the contract award.

Honorable Patrick C. Davis, Gonzales County Judge June 10, 2024

SECTION 00 21 13.13 INSTRUCTIONS TO BIDDERS

The project to be constructed will be financed with assistance from the General Land Office (GLO) under the U.S. Department of Housing and Urban Development Community Development Block Grant – Mitigation (CDBG-MIT) program and is subject to all applicable Federal and State laws and regulations. The County of Gonzales is the subrecipient of the grant funding and is hereby referred to as "Owner".

The Contractor shall provide all necessary labor, materials, equipment, and supervision as required to complete the project in accordance with the Contract Documents, Drawings, Specifications, and Permits.

1. <u>Use of Separate Bid Forms</u>

These contract documents include a complete set of bid and contract forms which are for the convenience of the bidders and are not to be detached from the contract document, completed or executed. <u>Separate bid forms are provided for your use</u>.

2. Interpretations or Addenda

No oral interpretations will be made to any bidder. Each request for clarification shall be made in writing to the Gonzales County or engineer no less than seven (7) days prior to the bid opening. Each interpretation made will be in the form of an Addendum to the contract documents and will be distributed to all parties holding contract documents no less than seven (7) days prior to the bid opening. It is, however, the bidder's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda, whether or not received by the bidders.

If an addendum to the bid package is necessary, it must be distributed to each potential bidder. The distribution of an addendum shall be verified either by statements of receipt or registered/certified mail receipts, which shall be included in the public works construction file. The addendum shall allow adequate time for consideration in bid preparation (usually at least one week). If adequate time is not available, the bid opening date must be extended and the Owner must republish the invitation for bids containing the place, time, and date for the new bid opening. Note that any change to the original bid opening date will require republication of the invitation for bids at least once in a locally published newspaper. The republished notice will include the place, time and date for the new bid opening date.

3. <u>Inspection of Site</u>

Each bidder should visit the site of the proposed work and should become acquainted with the existing conditions and facilities, the difficulties and restrictions pertaining to the performance of the contract. The bidder should thoroughly examine and become familiar 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 failure to receive or examine any form or legal document or to visit the site or the conditions existing at the site. The Owner will be justified in rejecting any claim based on lack of inspection of the site prior to the bid.

4. <u>Alternate Bid Items</u>

No alternate bids or bid items will be considered unless they are specifically requested by the technical specifications.

5. <u>Bids</u>

- a. All bids must be submitted on the forms provided and are subject to all requirements of the Contract Documents, including the Drawings.
- b. All bids must be regular in every respect and no interlineation, excisions or special conditions may be made or included by the bidder.
- c. Bid documents, including but not limited to the bid, the bid bond(s), Certification of Bidder Regarding Civil Rights Laws and Regulations, and the Statement of the Bidder's Qualifications, shall be sealed in an envelope and clearly labeled with the words "Bid Documents", the project's contract number, name of bidder and the date and time of bid opening.
- d. The Owner may consider as irregular any bid on which there is an alteration of or departure from the bid form and, at its option, may reject any irregular bid.
- e. If a contract is awarded, it will be awarded to a responsible bidder complying with all the provisions of this invitation on the basis of the lowest/best bid and the selected alternate bid items, if any. The contract will require the completion of the work in accordance with the contract document.

6. <u>Bid Modifications Prior to Bid Opening</u>

a. Any bidder may modify its bid by submitting a modification or supplemental bid at any time prior to the scheduled closing time for receipt of bids, provided such modification or supplemental bid is received by the Owner prior to the closing time. The modification or supplemental bid should not reveal the original bid price but should provide only the addition, subtractions or other modifications to the original bid so that the final prices or terms will not be known by the Owner until the sealed bid is open.

7. <u>Bid Bond</u>

- a. A bid bond in the amount of 5% of the bid issued by an acceptable surety shall be submitted with each bid [for contracts greater than \$100,000]. A certified check or bank draft payable to the City of Robstown or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.
- b. The bid bond or its comparable, will be returned to the bidder as soon as practical after the opening of the bids.

8. <u>Statement of Bidders Qualifications</u>

Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform its 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 data does not satisfy the Owner that the bidder is qualified to carry out properly the terms of the contract.

9. <u>Unit Price</u>

The unit price for each of the several items in the bid shall include its pro rata share of overhead 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. Special attention is drawn to this condition, as the unit prices will be used to determine the amount of any change orders resulting from an increase or decrease in quantities.

10. <u>Corrections:</u>

Erasures or other corrections in the bid must be noted over the signature of the bidder.

11. <u>Time for Receiving Bids</u>

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 Owner that the late arrival of the bid was solely due to delay in the mail for which the bidder was not responsible, such bid will be received and considered.

12. <u>Opening of Bids</u>

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

13. <u>Withdrawal of Bids</u>

Bidder may withdraw the bid before the time fixed for the opening of bids, by communicating its purpose in writing to the Owner. Upon receipt of such notice, the unopened bid will be returned to the bidder. The bid guaranty of any bidder withdrawing his bid will be returned promptly.

14. <u>Award of Contract/Rejection of Bids</u>

- a. The contract will be awarded to the responsive, responsible Bidder submitting the lowest/best bid and complying with all the provisions of this invitation. The bidder selected will be notified at the earliest possible date. The Owner reserves the right to reject any or all bids and to waive any informality in bids received where such rejection or waiver is in its interest.
- b. The Owner reserves the right to consider as unqualified to do the work 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.

15. <u>Execution of Agreement/Performance and Payment Bonds</u>

- a. Performance Bonds Requires all prime contractors which enter into a formal contract in excess of \$100,000 with the State, a county, or a municipality; a department, board, or agency of the state, a county, or a municipality; and a school district or a subdivision thereof, to obtain a Performance Bond in the amount of the contract before commencing with work
- b. Payment Bonds- Requires all prime contractors which enter into a formal contract with the State, a county, or a municipality; a department, board, or agency of the state, a county, or a municipality; and a school district or a subdivision thereof, to furnish to the governmental entity a payment bond in the amount of the contract. The payment bond must be filed within 30 days from the date of the Notice of Award:

- Municipalities: If the contract is in excess of \$50,000, a payment bond is required.
- Counties: If the contract is in excess of \$25,000, a payment bond is required.
- c. The failure of the successful bidder to execute the agreement and supply the required bonds within thirty (30) days from the date of the notice of award-or within such extended period as the Owner may grant, shall constitute a default and the Owner may, at its option either award the contract to the next lowest responsible bidder, or re-advertise for bids. In either case, the Owner may charge against the bidder the difference between the amount of the bid, and the amount for which a contract is subsequently executed irrespective of whether this difference exceeds the amount of the bid bond. If a more favorable bid is received through re-advertisement, the defaulting bidder shall have no claim against the Owner for a refund.

16. <u>Wages and Salaries</u>

Attention is particularly called to the requirement of paying not less than the prevailing Davis Bacon Related Acts (DBRA) wage rates specified in the Contract Documents. These rates are minimums to be paid during the life of the contract. It is therefore the responsibility of the Bidder to inform themselves as to local labor conditions.

17. <u>Equal Employment Opportunity</u>

Attention is called to the requirements for ensuring that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual orientation, gender identity, or national origin, and other civil rights requirements.

18. <u>Certification Regarding Lobbying</u>

Contractors who apply or bid for an award of \$100,000 or more shall provide the required certification 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 of 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 USC § 1352.

19. <u>System for Award Management (SAM)</u>

All contractors and subcontractors must be searched on <u>www.sam.gov</u> and cleared (not suspended or debarred) prior to any formal action authorizing the award of a contract to the contractor.

SECTION 00 42 00.00 BID FORM

DATE: _____

TO: COUNTY OF GONZALES

(Hereinafter called "Owner")

RE: GONZALES COUNTY RADIO COMMUNICATIONS SYSTEM IMPROVEMENTS GLO CONTRACT NO. 22-085-052-D305

To Whom It May Concern:

The Bidder, in compliance with your invitation for Bids for the above referenced project together with all appurtenances, having examined the Drawings and Specifications and related documents and the site of the proposed work and being familiar with all the conditions surrounding the construction of the proposed Project including the availability of labor and materials, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents and Addenda thereto, within the time set forth therein, for the price stated below. This price is to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid Form is a part.

The Bidder hereby agrees to commence work under this Contract on or before a date to be specified in a written "Notice to Proceed" from the Owner and to complete portions of the Project as shown by the milestone dates as indicated on this Bid Form.

Bidder hereby acknowledges receipt of the following Addenda:

The Bidder agrees to perform all work shown on the Drawings and described in the Specifications for the following prices:

BID FORM

Project Name:	Gonzales County Radio Communications System Improvements GLO No. 22-085-052-D305				
Owner:	County of Gonzales				
By its signatu Work, ackno work in acco	ure below, Bidder accepts all of the terms and conditions of the Bid Acknowled wledges receipt of all Addenda to the Bid and agrees, if this Bid is accepted, to rdance with the Contract Documents for the Bid price.	dgement, has o enter into a	reviewed Contract v	and acknowledge vith the Owner ar	s the Description of Id complete the
Bidder:			(full legal na	me of Bidder)	
Signature			(signature of	f person with authority	to hind the Bidder)
Signature.			(Signature of		
Name:			(printed nam	ne of person signing Bi	d Form)
Title:			(title of pers	on signing Bid Form)	
Attest:			(signature) (State of Res	idency)	
Federal Tax ID No.					
Address for Notices:					
Phone:	E-Mail Address:				
Basis of Bi	d				
Item	DESCRIPTION	ESTIMATED OUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
	Base Bid				
Gonoral					
	Mobilization (5% Maximum)	1	15		<u>ج</u>
2	Bonds & Insurance (2% Maximum)	1	LS		\$ -
Belmont Imp	provements	1	1		
3	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5 channels)	1	LS		\$ -
4	Furnish and Install Belmont Antenna System and mounting hardware	1	LS		\$-
5	Furnish and Install Belmont 300 ft Self Supporting Tower	1	EA		\$ -
6	Furnish and Install Tower Foundations	1	LS		\$ -
7	Furnish and install waveguide bridge	1	EA		\$ -
8	Furnish and Install Communications Shelter (10'x10' min., foundation, lighting, HVAC)	1	LS		\$ -
9	Furnish and install a new electrical service	1	EA		Ş -
10	Furnish and Install New Emergency Generator, 25 kW min., Diesel or Propane, transfer switch	1	EA		Ş -
11	Furnish and Install Belmont Electrical Connections	1	LS		\$ -
12	Furnish and install bernont Backhaul and associated Network Management System	1	LS		
13	Furnish and install a new renced compound with weed barner and graver base	1	LS		\$ -
Waelder Imr	rovements				
waciaci iiiip	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system: (no less than 5	[
15	channels)	1	LS		\$-
16	Furnish and Install Waelder Antenna System and mounting hardware	1	LS		\$-
17	Furnish and Install Waelder 300 ft Self Supporting Tower	1	EA		\$-
18	Furnish and Install Waelder Tower Foundations	1	LS		\$-
19	Furnish and install waveguide bridge	1	EA		\$-
20	Furnish and Install Communications Shelter (10'x10' min., foundation, lighting, HVAC)	1	LS		\$-
21	Furnish and install a new electrical service	1	EA		\$ -
22	Furnish and Install New Emergency Generator, 25 kW min., Diesel or Propane, transfer switch	1	LS		\$ -
23	Furnish and Install Waelder Electrical Connections	1	LS		Ş -
24	Furnish and Install Waelder Backhaul and associated Network Management System	1	LS		Ş -
25	rurnish and install a new renced compound with weed barrier and gravel base	1	LS		> -
26	rumish and install tower, compound, and shelter grounding systems	1	LS		
		J]		- ب

onzales I	mprovements		T	1	
	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5				
27	channels)	1	LS		Ş
28	Furnish and Install Gonzales Antenna System and mounting hardware	1	LS		Ş
29	Furnish and Install Gonzales 300 ft Self Supporting Tower	1	EA		\$
30	Furnish and Install Gonzales Tower Foundations	1	LS		\$
31	Furnish and install waveguide bridge	1	EA		\$
32	Furnish and install a new electrical service	1	EA		\$
33	Furnish and Install Waelder Electrical Connections	1	LS		\$
34	Furnish Gonzales Backhaul and associated Network Management System	1	LS		\$
35	Furnish and install a new fenced compound with weed barrier and gravel base	1	LS		\$
36	Furnish and install tower, compound, and shelter grounding systems	1	LS		\$
niley Im	provements			-	
37	Furnish and Install Smiley Antenna System and mounting hardware	1	LS		\$
38	Furnish and Install Smiley Backhaul and associated Network Management System	1	LS		\$
	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5				
39	channels)	1	LS		\$
40	Furnish and Install Smiley Electrical connections	1	LS		\$
					\$
eriff's O	ffice Improvements				
41	Network Interface Hardware	1	LS		\$
42	Furnish and Install Console/Workstations, Backup Control Stations	2	EA		\$
43	Furnish and Install Logging Recorder	2	EA		\$
44	Furnish and Install Sheriff's Office Backhaul and associated Network Management System	1	LS		\$
45	Furnish and Install Sheriff's Office Electrical Connections	1	LS		\$
onzales F	Police Department Improvements				
46	Furnish and Install Console/Workstation, Backup Control Station	1	EA		
47	Furnish and Install Logging Recorder	1	EA		
48	Furnish and Install Gonzales PD Electrical Connections	1	LS		
49	Furnish and Install Gonzales PD Backhaul and associated Network Management System	1	LS		
				Base Bid Total:	\$
_					•
	Calandar Days to Complete Base Bid		davr	Т	
	Calenual Days to Complete Dase Diu		uays		

IMPORTANT

The above prices shall include all labor, materials, overhead, profit, bonding, insurance, etc., to cover the finished work of the several kinds called for, including that of that of all subcontractors.

The Bidder understands that the Owner reserves the right to reject any or all Bids and to waive any informalities in the Bidding.

The Bidder agrees that this Bid shall be good and may not be withdrawn for a period of ninety (90) calendar days after the scheduled closing time for receiving Bids

The undersigned Bidder hereby declares that he agrees to do the work, and that no representations made by the Owner are in any sense a warranty but are mere estimates for the guidance of the Contractor.

Upon receipt of the notice of acceptance of the Bid, the Bidder will execute the formal Contract attached within ten (10) days and will deliver Performance and Payment Bonds, as required by the Contract.

The undersigned agrees that if awarded the Contract for the work, he will guarantee the work against defects in materials and workmanship for a period of one (1) year following completion of the work and acceptance by the Owner.

Ву:				
Title:			(SEAL) (If Bid is by Corp	ooration)
Bidder Information: Physical Address: _				
	Street		Suite	
	City	State	Zip code	
Mailing Address:	Street		Suite	
—	City	State	Zip code	
Phone Number: ()			
Facsimile Number:	()			
Fmail				

SECTION 00 43 13.13 BID BOND

State of Texas	§		
County of	§		
KNOW ALL MEN BY THESE PRESEN	TS: That	,	hereinafter
called "Surety", of the City of	, County of	, and State of	,
as authorized under the laws of the State	e of Texas to act as surety	on bonds for principals, are hel	d and firmly
bound unto COUNTY OF GONZALES	hereinafter referred to as "	Owner", in the penal sum of	
	· · · · · · · · · · · · · · · · · · ·	Dollars (\$)
for the payment whereof,		, hereinafter called	"Principal",
and surety bind themselves, and their h	neirs, administrators, exec	utors, successors, and assigns	, jointly and
severally, by these presents.			

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the Accompanying Bid, dated ____ day of _____, 20___, which is hereto attached and made a part hereof for:

GONZALES COUNTY RADIO COMMUNICATIONS SYSTEM IMPROVEMENTS GLO CONTRACT NO. 22-085-052-D305

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 ten (10) days after the prescribed forms are presented to him for signature, enter into written Contract with the Owner 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 or 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 said Principal	and Surety have executed this instrument under their several
seals, this day of, 20	0 The name and corporate seal of each corporate party
hereto affixed and these presents signed b	by its undersigned representative, pursuant to authority of its
governing body.	
PRINCIPAL	SURETY
Ву:	Ву:
Title:	Title:
Pow	Attorney-in-Fact*:
(SEAL)	(SEAL)
ATTEST	ATTEST
Ву:	Ву:
Title:	Title:
Principal Business Address	Surety Business Address

CERTIFICATE AS TO CORPORATE PRINCIPAL

l,,	certify that I am the,
Secretary of the Corporation named as Principal in the att	ached bond; that,
who signed the said bond on behalf of the Principal was t	hen the of said
Corporation; that I know his signature, and his signatur	e thereto is genuine; and that said bond was duly
signed, sealed and attested to, for and in behalf of said co	prporation by authority of the governing body.
	_
(Signed)	(Corporate Seal)

Title: _____

SECTION 00 43 28.13 SALES TAX EXEMPTION

This Contract will be issued by an organization which qualifies for exemption of State Sales Tax for all materials consumed or incorporated into the finished project under the provision of Rule 3.322 of the Texas Sales, Excise and Use Tax.

Purchaser's Name

Street Address

City, State, Zip Code

I claim an exemption from payment of Sales and Use Taxes for the purchase of taxable items for the project described below:

Description of items (or an attached order or invoice) to be purchased:

I claim this exemption for the following reason:

I understand that I will be liable for payment of Sales Tax which may become due for failure to comply with the provisions of the State, City, County and/or Metropolitan Transit Authority/City Transit Department Sales and Use Tax laws and Comptroller rules regarding exempt purchases. Liability for the Tax will be determined by the price paid for the taxable items purchased or the Fair Market Rental Value for the period of time used.

I understand that it is a misdemeanor to give an Exemption Certificate to the supplier for taxable items which I know, at the time of purchase, will be used in a manner other than that expressed in this Certificate and, upon conviction, may be fined up to \$500 per offense.

Supplier:	
Street Address:	
City, State, Zip Code:	
Purchaser's	
Printed Name:	
Signature:	
Title:	
Date:	Phone:

This Certificate does not require a number to be valid.

Sales and Use Tax Exemption Numbers or Tax Exempt Numbers do not exist.

This Certificate should be furnished to the supplier.

Do not send the completed Certificate to the Comptroller of Public Accounts.

SECTION 00 45 13.13 STATEMENT OF BIDDERS QUALIFICATIONS

PART 1 DESCRIPTION

1.1	To assist the Owner in determining the ability of each Bidder to properly fulfill the requirements of this proposed contract, the Bidder shall complete the following items.		
1.2	All questions must be answered, and the data given must be clear and comprehensive.		
1.3	If necessary, questions may be answered on separate attached sheets.		
1.4	The Bidder may submit any additional information he desires.		
PART 2 2.1	BIDDER INFORMATION Name of Bidder:		
2.2	Address:		
2.3	Phone Number: ()		
2.4	Fax Number: ()		
2.5	Date Organized:		
2.6	Date Incorporated:		
2.7	Number of Years in contracting business under present name:		
2.8	Type of work performed by your company:		
2.9	Have you ever failed to complete any work awarded to you? <u>YES</u> <u>NO</u>		
2.10	Have you ever defaulted on a Contract? <u>YES</u> <u>NO</u>		
2.11	Credit available: \$		
2.12	Bank reference:		
2.13	Are you a Section 3 business: YES NO		
A.	Section 3 Business Concerns: 1. Businesses that are fifty-one percent (51%) or more owned by Section 3 resident(s);		
	 Businesses whose permanent, full-time employees include persons, at least thirty percent (30%) of whom are currently Section 3 resident(s), or within three (3) years of the date of employment with the firm were Section 3 resident(s); 		
	3. Businesses that provide evidence of a commitment to subcontract in excess of twenty-five percent (25%) of the dollar amount of all subcontracts to be awarded to businesses that meet the qualifications described above; or		

4. Businesses located within the Owner's jurisdiction that identify themselves as Section 3 Business Concerns because they provide economic opportunities for low and very lowincome persons.

PART 3 CONTRACTS ON HAND

List all contracts on hand at the time of submission of the Bid.

	Contract Name	Dollar Amount	Anticipated Completion Date
3.1			
3.2		<u></u>	
3.3			
3.4		<u></u>	
3.5		<u></u>	
3.6			
3.7			
3.8		<u></u>	
3.9		<u></u>	
3.10			

PART 4 CONTRACTS RECENTLY COMPLETED

List all contracts completed at the time of submission of the Bid with at least five (5) similar projects, which have been completed within the last five (5) years.

4.1	Owner:	
	Address:	
	Project Name:	
	Date Completed:	
	Total Cost:	
4.2	Owner:	
	Address:	
	Project Name:	
	Date Completed:	
	Total Cost:	

4.3	Owner:
	Address:
	Project Name:
	Date Completed:
	Total Cost:
4.4	Owner:
	Address:
	Project Name:
	Date Completed:
	Total Cost:
4.5	Owner:
	Address:
	Project Name:
	Date Completed:
	Total Cost:
4.6	Owner:
	Address:
	Project Name:
	Date Completed:
	Total Cost:

 PART 5 EQUIPMENT AVAILABLE FOR THIS CONTRACT 5.1 The Bidder shall provide below a list of equipment available for use on this Contract: 		
PART 6 6.1	SUBCONTRACTORS The Bidder shall provide below a tentative list of Subcontractors proposed to work on the Contract, and the portion of work to be performed by each.	
The unde	ersigned hereby authorizes and requests any person, firm, or corporation to furnish any information	
request	ed by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.	
Execute	d this day of, 20	
Ву:		
Title:		

SECTION 00 45 19.13 NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of Texas	§	
County of	§	
	_, being first duly swor	n, deposes and says that:
(1) He/She is submitted the attached Bid;	of	, the Bidder that has

(2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the

(Local Public Agency) or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

	(Signed)		
			Title
Subscribed and sworn to me this	day of	·	
	E	Зу:	Notary Public
My commission expires			

SECTION 00 51 00.00 NOTICE OF AWARD

(TO BE INSERTED PRIOR TO EXECUTION OF CONTRACT)

SECTION 00 52 00.00 AGREEMENT

THIS AGREEMENT made this the _____ day of _____, 2024, by and between _____ (a corporation organized and existing under the laws of the State of <u>Texas</u>) (a partnership consisting of _____) (an individual trading as _____) hereinafter called the "Contractor", and <u>County of Gonzales</u> hereinafter called the "Owner."

WITNESSETH, that the Contractor and the Owner for the considerations stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment and services, including utility and transportation services, and perform and complete all work required for the construction of the Improvements embraced in the Project; namely, <u>GONZALES COUNTY RADIO</u> <u>COMMUNICATIONS SYSTEM IMPROVEMENTS GLO CONTRACT NO. 22-085-052-D305</u> for the Community Development Block Grant – Mitigation (CDBG- MIT) project, all in strict accordance with the contract documents including all addenda thereto, numbered <u>, dated</u> and <u>, all as prepared by HANSON</u> <u>PROFESSIONAL SERVICES, INC.</u> acting and in these contract documents preparation, referred to as the "Engineer".

ARTICLE 2. The Contract Price. The Owner will pay the Contractor for the performance of the Contract in current funds, for the total quantities of work performed at the *unit prices* stipulated in the Bid for the several respective items of work completed subject to additions and deductions as provided in ______ hereof.

ARTICLE 3. The Contract. The executed contract documents shall consist of the following components:

- a) This Agreement
- b) Addenda
- c) Invitation for Bid
- d) Instructions to Bidders
- e) Signed Copy of Bid
- f) Performance Bond
- g) Payment Bond
- h) Contractor Certificate of Insurance
- i) Addendum to General Conditions
 j) EJCDC C-700 Standard General Conditions of the Construction Contract

- k) Supplemental Special Conditions
- I) Rule 28 TAC 110.110
- m) Texas House Bill 560
- n) General Requirements Section
- o) Supplemental GLO Contract Requirements
- p) Technical Specifications
- q) Drawings (as listed in the Schedule of Drawings)

ARTICLE 4. Performance. Work, in accordance with the Contract dated _____, ____, shall commence on or before _____, ____, and Contractor shall complete the WORK within ______ consecutive calendar days thereafter. The date of completion of all WORK is therefore

This Agreement, together with other documents enumerated in this ARTICLE 3, which said other documents are as fully a part of the Contract as if hereto attached or herein repeated, forms the Contract between the parties hereto. In the event that any provision in any component

part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in this ARTICLE 3 shall govern, except as otherwise specifically stated.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in <u>triplicate</u> original copies on the day and year first above written.

(The Contractor)

By_____ Title_____

(Owner)

Ву_____

Corporate Certifications

I,, certify that I am the	of the
corporation named as Contractor herein; that	who signed this
Agreement on behalf of the Contractor, was then	of said
corporation; that said Agreement was duly signed for and in behalf of said	d corporation by
authority of its governing body, and is within the scope of its corporate powers.	

Corporate Seal

(Corporate Secretary)

SECTION 00 55 00.00 NOTICE TO PROCEED

(TO BE INSERTED AFTER EXECUTION OF CONTRACT)

SECTION 00 59 00.00 ATTORNEY'S REVIEW CERTIFICATION

I, the undersigned, _____, the duly authorized and Acting

Legal Representative of the

_____, 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

Printed Attorney's Name

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SECTION 00 61 13.13 PERFORMANCE BOND

State of Texas		§		
County of		§		
KNOW ALL PERS	ONS BY THESE PRE	ESENTS: That		,
hereinafter called	"Surety", of the City	of	, County of	, and State of
, a	s authorized under the	e laws of the Sta	ate of Texas to act as surety	on bonds for principals,
are held and firmly	bound unto COUNT	Y OF GONZAL	ES, hereinafter referred to a	as "Owner", in the penal
sum	of			Dollars
(\$) for the pa	ayment whereof,	' <u></u>	,
hereinafter called	"Principal", and sur	ety bind thems	elves, and their heirs, ad	dministrators, executors,
successors, and assigns, jointly and severally, by these presents:				

WHEREAS, the Principal has entered into a certain written Contract, hereinafter called "Contract", with the Owner, dated the _____ day of _____, 20____, to which Contract is hereby referred to and made a part hereof as if included herein in its entirety.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall faithfully perform said Contract and shall in all respects duly and faithfully observe and perform all and singular the covenants, conditions, and agreements in and by said Contract agreed and convened by the Principal, to be observed and performed, and according to the true intent and meaning of said Contract and the Contract Documents, Specifications, and Plans hereto annexed, then this obligation shall be void; otherwise to remain in full force and effect;

PROVIDED, **HOWEVER**, that this bond is executed pursuant to the provisions of Article 5160 of the Revised Civil Statutes of Texas, as amended, and all liabilities on this bond shall be determined in accordance with the provisions of said Article to the same extent as if included herein in its entirety.

SURETY, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of this Contract, or to the work performed thereunder, or the Contract documents, Specifications, and Plans accompanying the same, shall in anyway 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 the work performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have caused this instrument to be executed in five

(5) original copies, this _____ day of _____, 20____.

PRINCIPAL (CONTRACTOR)	SURETY	
Ву:	Ву:	
Title:	Title:	
ATTEST		
Ву:	Ву:	
Title:	Title:	

The name and address of the Resident Agent of Surety is:

SECTION 00 61 13.16 PAYMENT BOND

State of Texas	§		
County of	§		
KNOW ALL PERSONS BY THESE P	RESENTS: That		
hereinafter called "Surety", of the Ci	ty of	, County of	, and State of
, as authorized under	the laws of the Sta	ite of Texas to act as surety	on bonds for principals,
are held and firmly bound unto COUN	ITY OF GONZALI	ES , hereinafter referred to a	as "Owner", in the penal
sum of			Dollars
(\$) for the	payment whereof,		9
hereinafter called "Principal", and s	urety bind thems	elves, and their heirs, ad	ministrators, executors,
successors, and assigns, jointly and se	everally, by these p	resents:	

WHEREAS, the Principal has entered into a certain written Contract, hereinafter called "Contract", with the Owner, dated the _____ day of _____, 20____, to which Contract is hereby referred to and made a part hereof as if included herein in its entirety.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall pay all claimants supplying labor and material to him or a subcontractor in the prosecution of the work provided for in said Contract and the Contract Documents, Specifications, and Drawings hereto annexed, then this obligation shall be void; otherwise to remain in full force and effect;

PROVIDED, **HOWEVER**, that this bond is executed pursuant to the provisions of Article 5160 of the Revised Civil Statutes of Texas, as amended, and all liabilities on this bond shall be determined in accordance with the provisions of said Article to the same extent as if included herein in its entirety.

SURETY, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of this Contract, or to the work performed thereunder, or the Contract documents, Specifications,

and Drawings accompanying the same, shall in anyway 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 the work performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have caused this instrument to be executed in five

(5) original copies, this _____ day of _____, 20____.

PRINCIPAL (CONTRACTOR)	SURETY
Ву:	Ву:
Title:	Title:
ATTEST	
Ву:	Ву:
Title:	Title:

The name and address of the Resident Agent of Surety is:

SECTION 00 62 16.00 CONTRACTOR CERTIFICATE OF INSURANCE AND LIABILITY

(TO BE INSERTED AFTER EXECUTION OF CONTRACT)
SECTION 00 62 16.00 CONTRACTOR ESTIMATE FOR PARTIAL PAYMENT

CONTRACTOR'S APPLICATION FOR PAYMENT FORM INCLUDED ON THE FOLLOWING PAGES.

Contractor's A	pplication	for Paymer	nt				
Owner:	County c	of Gonzales,	Texas		Owner'	's Project No.:	
Engineer:	Hanson I	Professional	Services Ind	с.	Enginee	er's Project No.:	20L0114
Contractor:					Contrac	ctor's Project No.	.:
Project:	Gonzales	s County Rad	dio Commur	nications Sys	tem Impro	ovements	
Contract:	GLO Con	tract No. 22	-085-052-D	305			
Application I	No.:			Applicatior	Date:		
Application I	Period:	From			to		
1. Orig	ginal Cont	ract Price					\$-
2. Net	: change b	y Change Oi	rders				\$-
3. Cur	3. Current Contract Price (Line 1 + Line 2) \$-						
4. Tot	4. Total Work completed to date						
(Su	(Sum of Column F Lump Sum Total and Column H Unit Price Total) \$-						
5. Ret	ainage						
a	•	X \$	-	Work Comp	leted =	\$	-
b	. Total Ret	tainage (Line	e 5.a)				\$-
6. Amount eligible to date (Line 4 - Line 5.b)						\$-	
7. Less previous payments (Line 6 from prior application)							
8. Amount due this application \$					\$-		
9. Bala	ance to fir	nish, includir	ng retainage	e (Line 3 - Lin	e 4 + Line	5.b)	\$-
The undersigned Contractor certifies, to the best of its knowledge, the following: (1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment; (2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and (3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.							
Contractor:							
Signature:						Date:	
Recommend	ed by Eng	gineer		A	proved b	y Owner	
Ву:				By	/:		
Title:				Ti	tle:		
Date:				Da	ate:		
Approved by	Funding	Agency					
Ву:				Ву	/:		
Title:				Ti	tle:		
Date:				Da	ate:		

Contractor's Application for Payment

Owner:	County of Gonzales, Texas Owner's Project No.:						
Engineer:	Hanson Professional Services Inc.				Engineer's Project N	o.:	20L0114
Contractor:					Contractor's Project	No.:	
Project:	Gonzales County Radio Communications System Improvement	nts			_		
Contract:	GLO Contract No. 22-085-052-D305				_		
Application No.:	Application Period:	From		to		Application Date:	
Α	В	С	D	E	F	G	Н
			Work Co	mpleted			
			(D + E) From		Work Completed		
			Previous		to Date	% of Scheduled	Balance to Finish
		Scheduled Value	Application	This Period	(D + E)	Value (F / C)	(C - F)
Item No.	Description	(\$)	(\$)	(\$)	(\$)	(%)	(\$)
		Original	Contract				
					-		-
					-		-
					-		-
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					-		-
					-		-
	Original Contract Totals	Ş -	Ş -	Ş -	Ş -		Ş -

Progress Estimate - Lump Sum Work

Contractor's Application for Payment

Owner:	County of Gonzales, Texas Owner's Project No.: Hanson Professional Services Inc. Engineer's Project No.:						
Contractor:					Contractor's Project N	No '	2010114
Project:	Gonzales County Radio Communications System Improvemen	itc				. NO	
Contract:	GLO Contract No. 22-085-052-D305	113					
					-		
Application No.:	Application Period:	From		to		Application Date:	
Α	В	С	D	E	F	G	Н
			(D + E) From	mpleted	Work Completed		
			Previous		to Date	% of Scheduled	Balance to Finish
		Scheduled Value	Application	This Period	(D + F)		(C - F)
Item No.	Description	(\$)	(\$)	(\$)	(\$)	(%)	(\$)
	Description	Change	Orders	(4)	(4)	(70)	(4)
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	Change Order Totals	Ş -	Ş -	۶ -	۶ -		۶ -
		Original Contract	and Change Orders				
	Duciost Totala	conginal contract a	ć	ć	ć		ć
	Project lotais	ş -	ې -	ې -			ş -

Progress Estimate - Lump Sum Work

Progress Estin	nate - Unit Price Work						Contractor's Ap	plication	I for Payment
Owner:	County of Gonzales. Texas						Owner's Project No.	:	
Engineer:	Hanson Professional Services Inc.					-	Engineer's Project N	lo.:	20L0114
Contractor:						-	Contractor's Project	No.:	
Proiect:	Gonzales County					-	·····,···		
Contract:	GLO Contract No.					-			
						-			
Application No.:	Application Period:	From		to		-			
А	В	С	D	E	F	G	Н	I	J
			Contrac	t Information		Work C	Completed		
Rid Item No.	Description	Item Quantity	Units	Unit Price	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)	% of Value of Item (H/ F) (%)	Balance to Finish (F - H)
Dia tteri ttor	Description	nem quantity	Origin	al Contract	(\$)		(4)	(/0)	(4)
					-		-	1	-
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					-		-		-
			Origin	al Contract Totals	Ş -		Ş -		Ş -

Progress Estin	mate - Unit Price Work						Contractor's Ap	plication	for Payment
Owner:	County of Gonzales, Texas						Owner's Project No	:	
Engineer:	Hanson Professional Services Inc.					-	Engineer's Project N	lo.:	20L0114
Contractor:						-	Contractor's Project	No.:	
Project:	Gonzales County					-	-		
Contract:	GLO Contract No.					-			
Application No.:	Application Period:	From		to					
А	В	С	D	E	F	G	Н	I	J
Contract Information						Work (Completed		
Bid Item No.	Description	Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)	% of Value of Item (H/ F) (%)	Balance to Finish (F - H) (\$)
			Char	ige Orders					
					-		-		-
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					-		-		-
-					-		-		-
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			Ch	ange Order Totals	\$ -		\$ -		\$ -
			Original Contra	ct and Change Ord	ers				
				Project Totals	\$-		\$-		\$-

END OF SECTION

SECTION 00 63 63.13 CHANGE ORDER FORM

	COMMUNITY The Const	DEVELOPMENT & REVITALIZ Texas General Land Office ruction Change Order Request	ATION		
NOTE: Texas Local Governmi in the contract price in exces	ant Code Sec. 262.031 *CHANGE: is of 25% or a cumulative <u>decreas</u>	S IN PLANS AND SPECIFICATIONS to excess of 18% are disallowed	' regulations apply. d.	Generally,	a cumulative <u>increase</u>
Subrecipient	GLO Contract Nur	nber:		Date:	
Engineer Name Address &	A Phone Subrecipient Nam	e, Address, & Phone Number:	Contractor Na	me, Addres	s & Phone Number:
Project #:	Bid Package #:		Change Order #:		
contract Origination Date		Project Description:			
You are	hereby requested to comply with	the following changes from the o	ontract plans and s	pecificatio	ns.
Item No. Description	of Changes: Quantities, Units, Unit Schedule etc.	Prices, Change in Completion	Decrease in Contr	act Price	Increase in Contract Price
	See sl	neet 2 to add additional entries	I		
Change in Constru	otion Contract Price	Change	in Contract Time (alendar D	ays)
Original Contract Price:		Original Con	tract Time in Days:		
Cumulative Previous		Net Change from Previous Chan	ge Order(s) in Days		
Change Order(s) Total:		6			
this Change Order:		Contract Time Prior to this Cha	ange Order in Days		
Net Increase/Decrease	N	let Increase/Decrease of this Cha	inge Order in Days:		
of this Change Order:					

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	COMMUNITY DEVELOPMENT & REVITALIZATION The Texas General Land Office Construction Change Order Request					
Contract Price with All Approved Change Orders:		Contract Time with All	Approved	Change Orders Day	in /8:	
Cumulative Percent Change in Contract Price (+/-)	Subrecipient C			ontract End Dat	:e:	
Start Date:		Cone	truction C	ontract End Dat	te:	
*This document may be executed price amendment warranted	ments of costs inc r to submission fo I as a result of this	uded in this change order a r GLO-CDR review, but all pe s change order is not in com	ire subject irties invol pliance w	t to review by Gi Ived will be held Ith CDBG or HU	LO-CDR. I responsible if i D Requirememo	the change order or ints
Subrecipient Signature	Subrecipient Signature Engineer Signature				Contractor Sig	nature
Subrecipient Nam and Title (Printed)	Engine	er Name and Title (Printed)		Contra	ctor Name and	Title (Printed)
Subrecipient Signature		Engineer Signature			Contractor Sign	nature
Justification for Change Order 1. Will this change order increase or decrease the number of beneficiaries?				Increase	CDecrease	No Change
If there is a change, how many ber	eficiaries will be a	ffected?	Total			
2. Effect of this change on the scope of v	vork:			Increase	Decrease	No Change
3. Effect on operation and maintenance	costs:			Increase	Decrease	□ No Change
 Are all prices in the change order dependence. if 'no", explain: 	endent upon unit p	prices found in the original b	id?	□ _{Yes}	E No	
5. Has the change created new circumst the project's impact, such as concealed of construction?	ances or environm or unexpected con	ental conditions which may ditions discovered during a	affect tual	C Yes	C _{No}	
If 'yes', is an environmental assessment	required?					

Effective June 2020

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COMMUNITY DEVELOPMENT & REVITALIZATION

The Texas General Land Office

Construction Change Order Request

6. Is the Texas Council on Environmental Quality (TCEQ) clearance still valid (if applicable)?	Yes	С	No
7. Is the CCN permit still valid? (sewer projects only)	Yes	C	No
8. Are the disability access requirements/approval still valid (if applicable)?	Yes	С	No
9. Are other Disaster Recovery contractural special condition clearances still valid?	Yes	С	No

If 'no', explain:

Disclaimer: The Texas General Land Office has made every effort to ensure the information contained on this form is accurate and in compliance with the most up-to-date CDBG-DR and/or CDBG-MIT federal rules and regulations, as applicable. It should be noted that the Texas General Land Office assumes no liability or respansibility for any error or amission on this form that may result from the interim period between the publication of amended and/or revised federal rules and regulations and the Texas General Land Office's standard review and update schedule.

Effective June 2020

Page 3 of 3

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END OF SECTION

SECTION 00 65 19.10 Certificate of Construction Completion (Submit one for each Prime Construction Contract)

	COMMUNITY DE The Te Certificate	EVELOPMENT exas General e of Constructi	T & REVITALIZATION Land Office ion Completion	I	
Subrecipient:		Contract #:		Date:	
This is to certify that a final inspec	tion of the project descr	ribed below wa	s conducted on		
Contract was entered into on	betv	veen the city/c	ounty of		and
	for t	he construction	n of		
This is to further certify that:					
1. The work has been completed i agreements thereto, with the follow	n accordance with the p wing exceptions:	plans and spec	ifications and all adder	nda, change orde	ers, and supplemental
2. The sum of the foregoing excepted work.	, deducted from the f	inal payment to	o the Contractor is a fai	r and equitable :	settlement for
 The Contractor has presented of make good any faulty workmanshi from this date, as provided in the 0 	n behalf of itself and its p and/or materials disc Contract.	s sureties, satis overed in the w	sfactory evidence that I vork within a period of	te or she will rep	air, replace or
4. Amount of Original Contract:]	
Cumulative Change Orders:]	
Final Amount of Contract:]	
Less Previous Payments:]	
Less Deductions (from #2 above):]	
FINAL PAYMENT (Balance):]	
 The Final Payment in the amou Final Quantities: 	nt above is now due an	d payable.			
Activity Code (dropdown)	Project Nar (from Performance	ne Standard) (Description (What is your Activity?)	Quantity	Metric (dropdown)
		_			

Effective June 2020

Page 1 of 2



COMMUNITY DEVELOPMENT & REVITALIZATION

The Texas General Land Office

Certificate of Construction Completion

Activity Code (dropdown)	Projec (from Performs	t Name ance Standard)	Description (What is your Activity?)	Quantity	Metric (dropdown)	
Certified by :						
Engineer's Signature	9	Contrac	tor's Signature	Subrecipient's Signature		
Engineer's Name and Title	Engineer's Name and Title (Printed) Con		ame and Title (Printed	Subrecipient Name and Title (Printed)		
Firm			Firm		City/County of	

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Effective June 2020

Page 2 of 2

END OF SECTION

SECTION 00 65 19.13

CC	NTRACTOR'S FINAL PAYME	NT AFFIDAVIT	
Locality:			
Contractor:		Date:	
BEFORE ME, THE UNDERSIG	SNED AUTHORITY, on this day	personally appeared _	
	, who being c	duly sworn, on oath, sa	ys that he is a duly
authorized representative of	; Contrac	ctor, and that all terms	of the Contract for
the completion of certain public	works described as		
			;
	have been s	atisfactorily completed	and that ALL sums
of money for payrolls, bills for	material and equipment, and ot	her indebtedness conne	ected with the Work
for the Owner or its's property	might in any way be responsib	le to the best of my kn	owledge and belief,
have been paid or will be paid	or otherwise satisfied within thi	irty days after receipt of	f final payment from
the Owner, or within the perio	d of time required by Article 60)1f, Vernon's Civil Statu	utes. Payments not
made in full at the time of this a	uffidavit are listed below.		
FINAL PAYMENTS pending a	s of this date hereof are: 	None Pending	As Listed Below
Individual or Co. Name	Mailing Address	Amount Ow	ved
		Signature	

Title

Affidavit must be signed by an individual owner or partner in partnership, or by a person authorized by bylaws or Board of Directors to sign for a corporation. If Contractor is a joint venture or partnership of individuals, either may sign, but if a joint venture in which a corporation is a party, separate affidavits must be executed by each corporation and by each individual owner or partnership. In the event subcontractors, laborers, or material suppliers have not been paid in full, the Contractor shall list hereon the amount owed and the name and address of each subcontractor, laborer, or material supplier to whom such payment is owed.

Sworn and Subscribed before me this, the _	day of	, 20
--	--------	------

(SEAL)

Notary Public in and for _____ County, Texas

END OF SECTION

SECTION 00 73 00.00 ADDENDUM TO STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

The following serve as clarifications to provisions in Section 00 73 13.00 EJCDC C-700 Standard General Conditions of the Construction Contract:

- Provision 11.07 C -- Contractor's Fee
 - Contractor's fee will be based on the unit prices specified in the bid schedule. Any references to "cost-plus-fee" are not applicable.
- Provision 11.09 -- Change Proposals
 - Any references to changes involving "cost-plus-fee" pricing method are not applicable.
 - Provision 13.01 Cost of the Work
 - Cost-plus billing does not apply to this unit price grant project. Any references to "costplus-fee" are not applicable.
- Article 16 -- Termination
 - The termination provisions in the Supplemental General Land Office (GLO) Contract Requirements, General Conditions – Part 1, shall apply. In the event of a conflict between Article 16 (Termination) of the EJCDC C-700 Standard General Conditions and the termination provisions of the Supplemental GLO Contract Requirements, the termination provisions of the Supplemental GLO Contract Requirements shall govern.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
 - 1. Addenda—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 - 2. Agreement—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 - 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 - 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 - 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 - 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 - 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 - 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 - 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 - 10. Claim
 - *a.* A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
- c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
- *d*. A demand for money or services by a third party is not a Claim.
- 11. Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
- 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
- 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
- 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
- 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
- 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
- 17. *Cost of the Work*—See Paragraph 13.01 for definition.
- 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
- 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
- 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
- 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

- 22. Engineer—The individual or entity named as such in the Agreement.
- 23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
- 24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
- 25. Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- 26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
- 27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
- 28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
- 29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
- 30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
- 31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
- 32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

- 33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
- 34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
- 35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
- 36. Schedule of Values—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
- 37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
- 38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
- 39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
- 40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
- 41. Submittal—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
- 42. Substantial Completion—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

- 43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
- 44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
- 45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
- 46. Technical Data
 - a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
- 47. Underground Facilities—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
- 48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
- 49. Work—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
- 50. Work Change Directive—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. Intent of Certain Terms or Adjectives: The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day*: The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*: The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. Furnish, Install, Perform, Provide
 - 1. The word "furnish," when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word "install," when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in "Contract Price or Contract Times" or "Contract Times or Contract Price" or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term "or both" is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. Evidence of Contractor's Insurance: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner's Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 Before Starting Construction

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 Acceptance of Schedules

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. Reporting Discrepancies
 - 1. Contractor's Verification of Figures and Field Measurements: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
 - 2. Contractor's Review of Contract Documents: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
 - 3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.
- B. Resolving Discrepancies
 - 1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Requirements of the Contract Documents

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation— RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.
- 4.02 *Starting the Work*
 - A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.
- 4.03 Reference Points
 - A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 Delays in Contractor's Progress

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
 - 1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 - 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 - 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
 - 1. The circumstances that form the basis for the requested adjustment;
 - 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 - 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 - 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 - 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

- 5.01 *Availability of Lands*
 - A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

- A. Limitation on Use of Site and Other Areas
 - 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
- C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment
and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading of Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 Subsurface and Physical Conditions

- A. *Reports and Drawings*: The Supplementary Conditions identify:
 - 1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
 - 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
 - 3. Technical Data contained in such reports and drawings.
- B. Underground Facilities: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.
- D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
 - 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 - 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 Differing Subsurface or Physical Conditions

- A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
 - 1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 - 2. is of such a nature as to require a change in the Drawings or Specifications;
 - 3. differs materially from that shown or indicated in the Contract Documents; or
 - 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. Owner's Statement to Contractor Regarding Site Condition: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. Possible Price and Times Adjustments
 - 1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
- b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
- c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
- 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
- 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. Underground Facilities; Hazardous Environmental Conditions: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 Underground Facilities

- A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
 - 1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - complying with applicable state and local utility damage prevention Laws and Regulations;

- 3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
- 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
- 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. Notice by Contractor: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. Engineer's Review: Engineer will:
 - 1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 - 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 - 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 - 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. Owner's Statement to Contractor Regarding Underground Facility: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. Possible Price and Times Adjustments
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
- b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
- c. Contractor gave the notice required in Paragraph 5.05.B.
- 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
- 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
- 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 Hazardous Environmental Conditions at Site

- A. *Reports and Drawings*: The Supplementary Conditions identify:
 - 1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
 - 2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

of construction to be employed by Contractor, and safety precautions and programs incident thereto;

- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.
- 6.02 Insurance—General Provisions
 - A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
 - B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
 - C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
 - D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor's Insurance

- A. *Required Insurance*: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions*: The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

- 4. not seek contribution from insurance maintained by the additional insured; and
- 5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 Builder's Risk and Other Property Insurance

- A. Builder's Risk: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. Property Insurance for Facilities of Owner Where Work Will Occur: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. Property Insurance for Substantially Complete Facilities: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. Partial Occupancy or Use by Owner: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

- 1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
- 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
 - 1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 Receipt and Application of Property Insurance Proceeds

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

- 7.01 Contractor's Means and Methods of Construction
 - A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
 - B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 Supervision and Superintendence

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.
- 7.03 *Labor; Working Hours*
 - A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.
- 7.04 Services, Materials, and Equipment
 - A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
 - B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
 - C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.
- 7.05 *"Or Equals"*
 - A. *Contractor's Request; Governing Criteria*: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
- 3) has a proven record of performance and availability of responsive service; and
- 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. Engineer's Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
 - Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

- 3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. Engineer's Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. Reimbursement of Engineer's Cost: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for evaluating of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 Concerning Subcontractors and Suppliers

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.
- 7.08 Patent Fees and Royalties
 - A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
 - B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
 - C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 Laws and Regulations

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 Hazard Communication Programs

A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 Submittals

- A. Shop Drawing and Sample Requirements
 - 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
 - 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

- 3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
 - 1. Shop Drawings
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 - 2. Samples
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 - 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. Engineer's Review of Shop Drawings and Samples
 - Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 - 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 - 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 - 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

- 5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
- 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
- 7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
- 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.
- D. Resubmittal Procedures for Shop Drawings and Samples
 - 1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
 - 2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
 - 3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.
- E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs
 - 1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03. 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 - 1. Observations by Engineer;
 - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. Use or occupancy of the Work or any part thereof by Owner;
 - 5. Any review and approval of a Shop Drawing or Sample submittal;
 - 6. The issuance of a notice of acceptability by Engineer;
 - 7. The end of the correction period established in Paragraph 15.08;
 - 8. Any inspection, test, or approval by others; or

- 9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

- 8.01 Other Work
 - A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
 - B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
 - C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
 - D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

- 9.01 Communications to Contractor
 - A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.
- 9.02 Replacement of Engineer
 - A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.
- 9.03 Furnish Data
 - A. Owner shall promptly furnish the data required of Owner under the Contract Documents.
- 9.04 Pay When Due
 - A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

- 9.05 Lands and Easements; Reports, Tests, and Drawings
 - A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
 - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
 - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 9.06 Insurance
 - A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
- 9.07 Change Orders
 - A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 Inspections, Tests, and Approvals
 - A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 Limitations on Owner's Responsibilities
 - A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 Undisclosed Hazardous Environmental Condition
 - A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 Evidence of Financial Arrangements
 - A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).
- 9.12 Safety Programs
 - A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
 - B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

- 10.01 *Owner's Representative*
 - A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.
- 10.02 Visits to Site
 - A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
 - B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Resident Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 Engineer's Authority

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 Determinations for Unit Price Work

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.
- 10.06 Decisions on Requirements of Contract Documents and Acceptability of Work
 - A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 Compliance with Safety Program

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 Amending and Supplementing the Contract

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.
- 11.02 Change Orders
 - A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
 - B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 Work Change Directives

A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 Field Orders

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.
- 11.05 Owner-Authorized Changes in the Work
 - A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
 - B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
 - C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 Unauthorized Changes in the Work

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.
- 11.07 Change of Contract Price
 - A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
 - B. An adjustment in the Contract Price will be determined as follows:

- 1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
- 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
- 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:
 - 1. A mutually acceptable fixed fee; or
 - 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 Change Proposals

- A. *Purpose and Content*: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.
- B. Change Proposal Procedures
 - 1. *Submittal*: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
 - 2. *Supporting Data*: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. Engineer's Initial Review: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. Engineer's Full Review and Action on the Change Proposal: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

- 5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 Notification to Surety

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 Claims

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 - 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. Submittal of Claim: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge
and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. Mediation
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. Denial of Claim: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

- 13.01 Cost of the Work
 - A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

- 2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 - 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 - 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
- c. Construction Equipment Rental
 - 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:
 - 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. Contractor's Fee
 - 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. Documentation and Audit: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. Cash Allowances: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

- E. Adjustments in Unit Price
 - 1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
 - 2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
 - 3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

- 14.01 Access to Work
 - A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

- A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

- 14.04 Acceptance of Defective Work
 - A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 Uncovering Work

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

- 15.01 *Progress Payments*
 - A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
 - B. Applications for Payments
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

- 3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
- 4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. Review of Applications
 - Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 - 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
 - 3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

- 4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
- 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
- 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. Payment Becomes Due
 - 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. Reductions in Payment by Owner
 - 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
- c. Contractor has failed to provide and maintain required bonds or insurance;
- d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
- e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
- f. The Work is defective, requiring correction or replacement;
- g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
- h. The Contract Price has been reduced by Change Orders;
- i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
- j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
- k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
- I. Other items entitle Owner to a set-off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

- 1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
- 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
- 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
- 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.
- 15.05 Final Inspection
 - A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 Final Payment

A. Application for Payment

- 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
- 2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
- e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. Engineer's Review of Final Application and Recommendation of Payment: If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability*: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due*: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.
- 15.07 Waiver of Claims
 - A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

- 16.01 Owner May Suspend Work
 - A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate for Convenience

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes*: For any dispute subject to resolution under this article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 Giving Notice

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
 - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 Computation of Times

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 Limitation of Damages

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 No Waiver

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.
- 18.06 Survival of Obligations
 - A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.
- 18.07 Controlling Law
 - A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 Assignment of Contract

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

18.09 Successors and Assigns

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

18.10 Headings

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00 73 13.13 SUPPLEMENTAL SPECIAL CONDITIONS

The information within this Section shall supplement Section 00 73 00.00 STANDARD GENERAL CONDITIONS.

PART 1 INSURANCE

1.1 General

- A. The Contractor shall maintain such insurance as will protect him from claims which may arise from and during operations under this Contract, including Owner's property under care, custody, and control of the Contractor, and a copy of such insurance shall name the following as an additional assured there under:
 - 1. COUNTY OF GONZALES
 - 2. HANSON PROFESSIONAL SERVICES, INC.
- B. The insurance shall remain in force for the life of this Contract.

1.2 Type and Amounts

- A. Contractor shall maintain at all times during term of this Contract at its sole cost and expense each of the following liability insurance coverage's listed below having policy limits not less than the dollar amounts set forth:
 - 1. Worker's Compensation & Employer's Liability Insurance
 - a. Statutory Worker's Compensation coverage, for the state where the work is performed, and Employers Liability Insurance with minimum limits of liability of \$1,000,000.
 - b. The Worker's Compensation policy shall be endorsed to waive any rights of subrogation which the insurance company may acquire, by reason of the payment of any claim, against the Owner, and its Affiliates, and their respective officers, directors, employees, agents and assigns.
 - 2. Commercial General Liability Insurance
 - a. Insurance protecting the Owner, and its subsidiaries and affiliates against damages arising from personal injury, bodily injury, including death, and from claims for property damage, which may arise directly or indirectly out of the operations of the contractor of any tier, their servants, agents or employees under this contract.
 - b. Minimum limits shall be \$1,000,000 per occurrence bodily injury liability and property damage liability combined and \$2,000,000 in the aggregate.
 - c. Insurance to be written on an occurrence basis and should include the following:
 - (1) Premises/Operations
 - (2) Products/Completed Operations For a period of two years after completion
 - (3) Personal & Advertising Injury with contractual exclusion deleted
 - (4) Contractual Liability
 - (5) Broad Form Property Damage
 - (6) Independent Contractors
 - (7) Explosion, collapse and underground coverage
 - (8) Severability of Interest
 - (9) Additional Insured Endorsement CG 20 10 (11/85) Form B or its equivalent
 - d. The policy shall be endorsed to waive any rights of subrogation against the Owner, its affiliates and their respective officers, directors, employees, agents, and assigns.
 - 3. Automobile Liability Insurance
 - a. Comprehensive Automobile Liability Insurance covering all owned, non-owned and hired automobiles, with minimum limits of liability of <u>\$1,000,000</u> per occurrence for bodily injury and property damage combined.
 - b. Such policy shall be endorsed to waive any rights of subrogation against the Owner, its Affiliates and their respective officers, directors, employees, agents and assigns.
 - 4. Umbrella Liability Insurance
 - a. Insurance with limits of \$1,000,000.
 - b. The policy must provide excess limits over the insurance in (b) and (c) and the employer's liability in (a) above.
 - c. The following additional conditions must apply:

- (1) Coverage must at least be as broad as primary
- (2) Aggregate follows form on underlying
- d. The policy shall be endorsed to waive any rights of subrogation against the Owner, its affiliates and their respective officers, directors, employees, agents, and assigns.
- 5. Property Insurance
 - a. Contractor shall be responsible for its own work, property and materials until completion and final acceptance and release of responsibility by the Owner and shall bear the risk of any loss or damage until such acceptance.
 - b. In the event of loss or damage, contractor shall proceed promptly to make repairs or replacement of damaged work, property or materials at its own expense.
 - c. The policy shall be endorsed to waive any rights of subrogation against the Owner, its affiliates and their respective officers, directors, employees, agents, and assigns.
- 6. Additional Insured
 - a. Contractors Commercial General Liability, Automobile, Umbrella and Policies shall be endorsed to name as additional insured's the Owner, its Affiliates, and their respective officers, directors, employees, agents and assigns.
 - b. Said policies shall be endorsed to provide that the coverage's provided in said policy or policies shall be primary and shall be non-contributory to any other insurance carried by The Owner or its Affiliates.
 - c. The term "Affiliate" as used herein shall mean a corporation or other entity, which, directly or indirectly, controls, or is controlled by or is under common control with the Owner.
- 7. General
 - a. Contractor, subcontractor and/or sub-subcontractor of any tier shall furnish the Owner with certificates of insurance before work under the contract has begun.
 - b. All such certificates shall provide that said insurance will not be canceled, nonrenewed or materially changed while the work is in progress without thirty (30) days prior written notice to and acceptance by the Owner.
 - c. Certificate may not have words such as "will endeavor to" or "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives".
 - d. Should Contractor at any time neglect, refuse to provide, or cancel the insurance required herein, the Owner shall have the right to both procure the same and deduct the cost from the amount payable under any applicable Purchase Order or terminate this agreement immediately.

PART 2 EQUAL EMPLOYMENT OPPORTUNITY

2.1 General

- A. The Contractor is required to ensure that qualified applicants will receive consideration for employment and will not be discriminated against due to race, color, creed, sex, age, handicap, or national origin.
- B. Contractor(s) on this work will be required to comply with all local, state, and federal equal employment opportunity regulations (current at time of the agreement signing).

PART 3 WAGE RATES

3.1 General

- A. The Contractor must abide by the Wage and Hour Laws of the State of Texas, and must pay not less than the legally prescribed rate for the County in which the work is performed in, as applicable.
- B. The Contractor and any subcontractor must not pay less than the specified wage rates to all laborers, workers, and mechanics employed by them in the execution of the Contract.
- C. The Contractor and each subcontractor must keep an accurate record showing the names and classifications of all laborers, workers, and mechanics employed by them in connection with the project and showing the actual wages paid to each worker.

3.2 Overtime

A. One and one-half $(1 \frac{1}{2})$ times the specified hourly wage must be paid for all hours worked in excess of 40 hours in any one week and for all hours worked on Sundays or holidays.

PART 4 STATE SALES TAX

4.1 General

A. The OWNER will furnish to the Contractor a Sales Tax Exemption Certificate for the purchase of eligible materials for this project, if applicable.

PART 5 LAWS, REGULATIONS AND PERMITS

5.1 General

A. The Contractors is directed to the fact that all applicable State laws, Local municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

5.2 Permits

- A. In the prosecution of the work, the Contractor shall comply with all permit conditions and lawful instructions and requirements of the federal and state agencies having jurisdiction in the areas involved.
- B. Such permit conditions and lawful instructions addressed to the Owner, which relate to the construction work included in the Contract shall be provided to the Contractor and shall be complied by the Contractor.
- C. If any portion of the work shall require a permit and the Owner has not provided the permit then it shall be the responsibility of the Contractor to obtain that permit at his cost, unless otherwise agreed upon with the Owner.

PART 6 TIME OF COMPLETION AND LIQUIDATED DAMAGES

6.1 General

- A. The Owner desires use of the facilities as quickly as possible.
- B. Contractor must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the Project by the specified time as indicated on his Proposal.
- C. Contractor must agree also to pay as liquidated damages the sum of Five Hundred Dollars (\$500.00) for each consecutive calendar day beyond the dates listed as hereinafter provided in the General Conditions.

PART 7 SCHEDULE AND SEQUENCING OF WORK

7.1 Initial Schedule

A. A time schedule shall be submitted to the Engineer within ten (10) days after issuance of the "Notice To Proceed" and at least three (3) days prior to the Pre-Construction Meeting or commencing construction, whichever is earlier, so that work sequencing can be approved by the Engineer and Owner.

7.2 Items to Include

- A. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities.
- B. Identify the first workday of each week.
- C. Indicate submittal dates required for submittals

7.3 Re-Submission

A. Revise and re-submit as required by the Engineer

7.4 Periodic Update

A. Submit updated construction progress schedule to show actual progress of each stage by percentage complete against initial Schedule with each Contractor Estimate for Partial Payment.

PART 8 SCHEDULE OF VALUES

8.1 General

- A. The Contractor shall submit to the Engineer within ten (10) calendar days after issuance of the Notice To Proceed, a schedule of values used to develop his Bid.
- B. This schedule shall be based on the items contained in Section 00 42 00.00 BID FORM.

- C. The Contractor shall break down his costs on the Lump Sum items in sufficient detail to allow the Engineer to verify quantities for the Contractor's monthly pay estimates.
- D. After this Schedule of Values is approved by the Engineer, it will be transferred to Section 00 62 76.00 ESTIMATE FOR PARTIAL PAYMENT which shall be submitted to the Engineer as the Contractor's monthly payment request.

PART 9 PAYMENT FOR MATERIALS AND EQUIPMENT

9.1 General

- A. Payment for materials and equipment shall be made only after these materials and equipment have been delivered to the job site.
- B. Payment will not be made for materials stored any place other than the job site.

PART 10 CONTRACTOR ESTIMATE FOR PARTIAL PAYMENTS

10.1 General

- A. The Contractor shall submit to the Engineer periodic estimates for Partial Payment on the form contained in Section 00 62 76.00 CONTRACTOR ESTIMATE FOR PARTIAL PAYMENT, as outlined in EJCDC "Standard General Conditions."
- B. These estimates shall cover work completed through the end of each month and should reach the Engineer no later than the 5th of each month.
- C. The Engineer will review the quantities on the estimate and, if acceptable, will forward these to the Owner for payment.
- D. If the quantities are not acceptable to the Engineer, the Engineer and the Contractor will agree on acceptable quantities before submitting the estimate to the Owner.

10.2 Retainage Withholding

- A. A retainage in the amount of five percent (5%) shall be withheld and noted on all Contractor Estimate for Partial Payments.
- B. Retainage will be released upon final acceptance of the completed work by the Owner.

PART 11 SAFETY

11.1 General

- A. The Contractor shall comply with all of the Owner's safety regulations and shall observe the requirements of the Occupational Safety and Health Act (OSHA), Texas Commission on Environmental Quality (TCEQ), and other Federal, State, and Local regulatory agencies with regulatory authority over this project.
- B. The Contractor shall comply with all procedures prescribed by the Owner for control and safety of persons visiting the job site.
- C. It is the Contractor's responsibility to take whatever steps necessary to assure the safety of individuals working on or visiting the site.
- D. The Owner calls the Contractor's attention to the necessity that the Contractor provides for proper storage, use and disposal of all materials; proper use and storage of tools and devices; and proper control of construction procedures to assure the health and safety of workers and of others having access to the job site.
- E. It is the Contractor's sole responsibility to obtain from the manufacturers, and sellers or distributors of material, tools, and devices all requirements for proper and safe usage, storage, and disposal, and to follow these requirements and recommendations carefully.
- F. Particular attention is called to the use of paints, thinners, solvents, caulking or patching materials, chemical grouts, and surface treatment materials.
- G. For First Aid instructions, contact a physician, activate the Emergency Medical System, 9-1-1.

PART 12 QUALITY OF ARTICLES, MATERIALS, AND EQUIPMENT

12.1 General

A. Articles, materials, and equipment to be incorporated into the work under this Contract shall be new and unused.

PART 13 WORKMANSHIP

13.1 General

A. Workmanship shall be of the highest type and shall be performed by mechanics skilled in their trade.

PART 14 PLANT

14.1 General

- A. The Contractor agrees to keep on the job sufficient plant to meet the requirements of the work.
- B. The plant shall be in satisfactory operating condition and capable of safely and efficiently performing the work as set forth in the specifications.
- C. The plant shall be subject to inspection by the Owner at all times.

PART 15 WATER

15.1 Consumable

- A. The responsibility shall be upon the Contractor to provide and maintain, at his own expense, an adequate supply of water for his use for domestic consumption during the construction of this project by means of portable and/or at fixed locations.
- B. Fixed locations shall be installed and maintain by the Contractor in accordance with local, state, and federal regulations and to supply the necessary supply connections and piping for same, but only at such locations and in such manner as are approved by the Engineer and the Owner.
- C. Before final acceptance, all temporary connections and piping installed by the Contractor shall be removed in a manner satisfactory to the Owner at the Contractors expense.

15.2 Construction

- A. The responsibility shall be upon the Contractor to provide and maintain, at his own expense, an adequate supply of water for his use for construction during the construction of this project, and to install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as are approved by the Engineer and the Owner.
- B. Before final acceptance, all temporary connections and piping installed by the Contractor shall be removed in a manner satisfactory to the Owner at the Contractors expense.

PART 16 SANITARY FACILITIES

16.1 General

- A. The Contractor shall furnish and maintain adequate temporary sanitary facilities on the job site at all times.
- B. All facilities shall be in accordance with local, state, and federal health regulations.
- C. The Contractor shall submit information about the type of facilities to the Engineer for approval.
- D. Before final acceptance, the Contractor shall remove all temporary sanitary facilities and clean the project site in a manner satisfactory to the Owner at the Contractors expense.

PART 17 ELECTRICITY

17.1 General

- A. All electric current required by the Contractor shall be furnished by the Contractor.
- B. All temporary connections for electricity shall be subject to approval by the Owner.
- C. All temporary lines will be furnished, installed, connected and maintained by the Contractor in a workmanlike manner satisfactory to the Owner and in compliance with the requirements of the National Electrical Code and all local ordinances.
- D. Before final acceptance, all temporary connections and lines installed by the Contractor shall be removed in a manner satisfactory to the Owner at the Contractors expense.

PART 18 SPECIFICATIONS

18.1 General

- A. Titles to divisions and paragraphs in these Contract Documents are introduced merely for convenience and are not to be taken as a part of the specifications and are, furthermore, not to be taken as a correct or complete segregation of the several units of material and labor.
- B. No responsibility, either direct or implied, is assumed by the Engineer for omissions or duplications by the Contractor or his Subcontractor, due to real or alleged error in arrangement of matter in these Contract Documents.

PART 19 CONSTRUCTION STAKING

19.1 General

A. The Construction Drawings depict lines, slopes, grades, sections, measurements, benchmarks, baselines, etc. that are normally required to construct a project of this nature.

- B. The major controls and benchmarks required for setting up a project, will be provided by the Owner.
- C. Construction staking shall be performed by the Contractor
- D. If, during construction, it is necessary to disturb or destroy a control point or benchmark, the Contractor shall provide the Engineer forty-eight (48) hours notice so that alternate control points can be established.
- E. Control points or benchmarks damaged as a result of the Contractor's negligence will be restored by the Owner at the expense of the Contractor.
- F. If, for whatever reason, it is necessary to deviate from proposed line and grade to properly execute the work, the Contractor shall obtain approval of the Engineer prior to deviation.
- G. If, in the opinion of the Engineer, the required deviation would necessitate a revision to the Construction Plans, the Contractor shall provide supporting measurements as required for the Engineer to revise the Construction Plans.
- H. The Contractor shall tie in or reference all valves and manholes, both existing and proposed, for the purpose of adjusting valves and manholes at the completion of the paving process.
- I. Also, the Engineer may require that the Contractor furnish a maximum of two (2) personnel for the purpose of assisting the measuring of the completed work.

PART 20 TESTING AND CERTIFICATION

20.1 General

- A. All testing and certifications required for the Project must be done by a recognized testing laboratory approved by the Owner.
- B. The Contractor will be responsible for scheduling all tests and certifications.
- C. The cost of the laboratory testing will be borne by the Contractor.
 - 1. In the event that any test fails, that test must be done over after corrective measures have been taken, and the cost of retesting will be borne by the Contractor and deducted from the payment to the Contractor.
- D. The Contractor must provide all applicable certifications to the Owner and Engineer.

PART 21 PROTECTION OF PROPERTY

21.1 General

- A. The Contractor shall preserve in operating condition all active utilities traversing or adjoining the construction site.
- B. Utilities or appurtenances, driveways, drainage structures, roadways or other improvements, which are damaged by the Contractor, shall be replaced to original condition at no cost to the Project Owner nor Owner of item.
- C. No materials are to be burned on the site without the prior written approval of the Owner and the appropriate air quality agency.

21.2 Notifications

- A. Utility and Pipeline
 - 1. The Contractor shall notify all public and private utility and pipeline owners within and adjacent to the project prior to construction.
 - a. Notice: Underground utilities and pipelines may be shown in the their approximate location within the Construction Plans for the convenience of the Contractor and not all utilities and pipelines may be shown in the Construction Plans and shall be the responsibility of the Contractor to field locate all utilities and pipelines within and adjacent to the project prior to construction.
 - 2. The Contractor shall have all public and private utility and pipeline owners within and adjacent to the project locate and mark the lines prior to construction.
 - 3. The Contractor shall notify the public and private utility and/or pipeline owners within and adjacent to excavation locations a minimum of forty-eight (48) hours prior to construction.
- B. Property Owners
 - 1. The Contractor shall notify all property owners a minimum of forty-eight (48) hours prior to commencing any work on their property.
 - 2. All driveways shall be reopened within four (4) hours of being closed.

PART 22 UTILITY SYSTEMS AND TRAFFIC CONTROL

22.1 General

- A. Where the Contractor's work requires changes in operation of an existing utility system, or where traffic patterns must be interrupted or changed, he shall contact the Owner or responsible agency prior to beginning work.
- B. Directions given by the Owner, City, County, or TxDOT shall be carefully followed, including requirements for signing, lighting, flagmen, working hours, and all other concerns.
- C. Particular attention is directed to work involving streets or public utilities having a direct affect on public health and safety, for instance utility service or road access to hospitals, clinics, fire stations, police stations, or other emergency services.

PART 23 CROSSING UTILITIES

23.1 General

- A. Underground utilities may be shown on the Plans for the convenience of the Contractor.
- B. A number of the utilities may have markers and telephone numbers for notification.
- C. The Contractor shall notify all public or private utilities owners at least 48 hours prior to excavating in the vicinity of utilities.
- D. The Contractor is warned that other utilities may exist in the project area.
- E. The Contractor shall perform his work carefully and avoid damage to utilities.
- F. The Contractor shall excavate and locate all utilities including the verification of size and depth prior to installation of the new utilities in the area.
- G. If field adjustments are necessary, the changes can be made prior to installation of the new utilities.
- H. No extra payment will be allowed for necessary changes in location or grade, and the cost of such changes will be included in the price of the line in place.

23.2 Damage to Pipeline or Utilities

- A. In the event of damage to underground utilities, whether shown in the Plans or not, the Contractor shall make the necessary repairs to place the utilities back in service to construct the work as intended at no increase in the Contract price.
- B. All such repairs must conform to the requirements of the company or agency that owns the utilities.
- C. No extra payment or time will be allowed by the Owner for repair work for such damage.

PART 24 ARCHEOLOGICAL DISCOVERIES

24.1 General

- A. No activity that may affect a State Archeological Landmark is authorized until the Owner has complied with the provisions of the Antiquities Code of Texas.
- B. The Owner has previously coordinated with the appropriate agencies and impacts to know cultural or archeological deposits have been avoided or mitigated.
 - 1. However, the Contractor may encounter anticipated cultural or archeological deposits during construction.

24.2 Discovery during Construction

- A. If archeological sites or historic structures are discovered after construction operations are begun, the Contractor shall immediately cease operations in that particular area and notify the Owner and the Texas Historical Commission.
 - 1. The Contractor shall take reasonable steps to protect and preserve the discoveries until they have been inspected by the Owner's representative.
 - 2. The Owner will promptly coordinate with the Texas Historical Commission and any other appropriate agencies to obtain the necessary approvals or permits to enable the work to continue.
 - 3. The Contractor shall not resume work in the area of the discovery until authorized to do so by the Owner.

PART 25 ENDANGERED SPECIES

25.1 General

A. No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), and/or the State of Texas parks and Wildlife Code on Endangered Species, or to destroy or adversely modify the habitat of such species.

25.2 Discovery during Construction

- A. If a threatened or endangered species is encountered during construction, the Contractor shall immediately cease work in the area of the encounter and notify the Owner, who will immediately implement actions in accordance with the ESA and applicable State statutes.
 - 1. These actions shall include reporting the encounter to the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department, obtaining any necessary approvals or permits to enable the work to continue, or implement other mitigative actions.
 - 2. The Contractor shall not resume construction in the area of the encounter until authorized to do so by the Owner.

PART 26 WETLAND PROTECTION

26.1 General

- A. The Contractor shall avoid causing adverse impacts to any wetlands or "Waters of the U.S." as that term is presently defined by the United States Army Corps of Engineers (USACE).
- B. As prescribed in Texas Commission on Environmental Quality (TCEQ) "State Water Quality Certification of Section 404 Permits", several best management practices (BMP's) are available and one or more shall be implemented by the Contractor.
- C. These BMP's include but not limited to the following: Erosion Control, Post-Construction TSS Control, and Sedimentation Control.
- D. Stockpiled material shall be placed in such a manner that prevents sediment runoff into water, including wetlands.
- E. Water bodies shall be isolated by the use of one or more of the required BMP's identified for sedimentation control as shown in the Plans.
- F. The BMP's must be implemented and maintained by the Contractor, and shall remain in place until the construction site is stabilized and the Engineer and Owner approves removal.

PART 27 ACCESS TO THE WORK

27.1 General

- A. The Contractor shall provide for access to the work at all times for the Owner, the Owner's Engineer, and their authorized representatives.
- B. The Contractor shall provide facilities for proper inspection by the above persons and shall exclude no portion of the work from such inspection.

PART 28 REMOVAL AND DISPOSAL OR SALVAGE OF MATERIALS

28.1 Disposal of Materials

- A. Excess excavated material, broken asphalt, concrete, broken culverts, and other unwanted materials shall become the property of the Contractor, unless otherwise stated or agreed upon, and must be removed from the site by the Contractor and disposed of by the Contractor in accordance with Local, State, and Federal regulations.
- B. The cost of all handling and hauling is considered subsidiary to the item(s); therefore, no direct payment will be made to the Contractor.

28.2 Salvage of Materials

- A. Excess excavated material, broken asphalt, concrete, broken culverts, and other materials that are to be salvaged shall be placed in an Owner approved location.
- B. The cost of all handling and hauling is considered subsidiary to the item(s); therefore, no direct payment will be made to the Contractor.

PART 29 FINAL CLEANUP

29.1 General

- A. Upon completion of the work and before acceptance and final payment, the Contractor shall remove rubbish, unused materials, and temporary structures from the limits of the project and restore, in a manner acceptable to the Owner at the Owner's sole discretion, all property, both public and private that has been disturbed and/or damaged during the prosecution of the work.
- B. The Contractor shall grade and level all portions of the work where the surface of the natural ground or street surface has been disturbed during construction, and shall leave the site of the work in a neat and presentable condition, free from ruts and holes.
- C. No extra payment will be made for this work, its cost being included in established bid items.

PART 30 GUARANTEE

30.1 General

- A. Neither the final acceptance certificate of payment nor any provision in the Contract documents, nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of the work not done in accordance with the Contract documents or relieve the Contractor of the responsibility for faulty materials or workmanship.
- B. The Contractor shall remedy any defects in there from, which shall appear within a period of one (1) year from the date of final acceptance of work unless a longer period is specified.
- C. The Owner will give notice of observed defects with reasonable promptness.
- D. The Contractor shall remedy any defects within thirty (30) calendar days of notice, unless a longer period is specified.
- E. The Contractor shall have the Performance Bond so written that the one (1) year guarantee period is covered by the Performance Bond.

PART 31 COMPLIANCE WITH AIR AND WATER ACTS

- **31.1** 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:
 - A. 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.
 - B. He will comply with all requirements of Section 114 of the Clean Air Act, as amended.
 - C. Materials utilized in the project shall be free of any hazardous materials, except as may be specifically provided for in the specifications.
- **31.2** If the Contractor encounters existing material on sites owned or controlled by the Owner or in material sources that are suspected by visual observation or smell to contain hazardous materials, the Contractor shall immediately notify the Engineer and the Owner. The Owner will be responsible for testing for and removal or disposition of hazardous materials on sites owned or controlled by the Owner. The Owner may suspend the work, wholly or in part during the testing, removal or disposition of hazardous materials on sites owned or controlled by the Owner.

PART 32 EQUAL EMPLOYMENT OPPORTUNITY

32.1 General

- A. The Contractor will not discriminate against any employee or the applicant for employment because of race, color, religion, sex, gender, 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, gender, or national origin. Such action shall include, but not be limited to the following: employment, promotion, 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 by the owner.
- 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 consideration for employment without regard to race, color, religion, sex, or national origin.
- C. The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each

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

- D. The Contractor shall take affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions.
- E. Contractors are encouraged to participate in voluntary associations which assist in fulfilling their affirmative action obligations.
- F. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority.
- G. The Contractor shall not use the affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- H. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts.
- I. 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.

PART 33 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES

33.1 The Contractor will not discriminate against any employee or applicant for employment because of disability in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals with disabilities without discrimination based upon their disability in all employment practices such as the following: employment, promotion, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

PART 34 SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974

34.1 No person in the United States shall on the ground of race, color, national origin, 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.

PART 35 THE PROVISION OF LOCAL TRAINING, EMPLOYMENT, AND BUSINESS OPPORTUNITIES

- **35.1** To the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project.
- **35.2** The Contractor will include this clause in every subcontract for work in connection with the project.

PART 36 NON SEGREGATED FACILITIES

36.1 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.

PART 37 MINORITY/FEMALE GOALS AND TIMETABLES

37.1 The female employment goal is effective as of April 1980 and is currently 6.9%. The percentages for minority participation in Texas are:

<u>Texarkana Area:</u>	
Texarkana & Bowie Co.	19.7
Non-MSA Counties of Camp, Cass, Lamar, Morris, Red River & Titus	20.2
Tylor Longview Area:	
Longview Greag Co. & Harrison Co.	22.8
Tyler & Smith Co.	23.5
Non-MSA Counties of Anderson, Angelina, Cherokee, Henderson, Marion.	22.5
Nacogdoches, Panola, Rusk, San Augustine, Shelby, Upshur & Wood	-
Beaumont-Port Arthur Area:	
Beaumont, Port Arthur, Orange, Hardin Co., Jefferson Co., & Orange Co.	22.6
Non-MSA Counties of Jasper, Houston, Newton, Sabine, & Tyler	22.6
Houston Area	
Rivan College Station & Brazos Co	23.7
Galveston Texas City & Galveston Co	28.9
Houston Brazoria Co. Fort Bend Co. Harris Co. Liberty Co. Montgomery Co. &	27.3
Waller Co.	21.0
Non-MSA Counties of Austin, Burleson, Calhoun, Chambers, Colorado, DeWitt,	27.4
Fayette, Goliad, Grimes, Jackson, Lavaca, Leon, Madison, Matagorda, Polk,	
Robertson, San Jacinto, Trinity, Victoria, Walker, Washington, & Wharton	
Austin Area:	
Austin, Hays Co., Travis Co., & Williamson Co.	24.1
Non-IMSA Counties of Bastrop, Blanco, Burnet, Caldwell, Lee & Llano	24.2
Waco Killoon Temple Area:	
Killeen Temple Bell Co & Corvell Co	16.4
Waco & McLennan Co.	20.7
Non-MSA Counties of Bosque, Falls, Freestone, Hamilton, Hill, Lampasas,	18.6
Limestone, Milam & Mills	
Dallas, Fort Worth Area:	
Dallas, Fort Worth, Collin Co., Dallas Co., Denton Co., Ellis Co., Hood Co.,	18.2
Johnson Co., Kaufman Co., Parker Co., Rockwall Co., Tarrant Co. & Wise Co.	0.4
Sherman, Denison & Grayson Co. Non MSA Counties of Cooke Delta Frath Fannin Franklin Honkins Hunt Jack	9.4
Non-mon Counties of Cooke, Deita, Liath, Farmin, Frankin, Hopkins, Hunt, Jack,	1/2
Montague Navarro Palo Pinto Rains Somervell & Van Zandt	17.2
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt	17.2
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt Wichita Falls Area:	17.2
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co.	17.2
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger &	17.2 12.4 11.0
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young	17.2 12.4 11.0
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young	17.2 12.4 11.0
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene Area:	17.2 12.4 11.0
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Proven Colomon Company, Eastland, Eisbor, Haskell	17.2 12.4 11.0
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent Knox Mitchell Nolan, Scurry, Shackleford, Stephens, Stonewall &	17.2 12.4 11.0 11.6 10.9
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton	17.2 12.4 11.0 11.6 10.9
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton	17.2 12.4 11.0 11.6 10.9
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton <u>San Angelo Area:</u>	17.2 12.4 11.0 11.6 10.9
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt <u>Wichita Falls Area:</u> Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young <u>Abilene Area:</u> Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton <u>San Angelo Area:</u> San Angelo & Tom Green Co.	17.2 12.4 11.0 11.6 10.9 19.2
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt Wichita Falls Area: Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young Abilene Area: Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton San Angelo Area: San Angelo & Tom Green Co. Non-MSA Counties of Coke, Concho, Crockett, Irion, Kimble, McCullough,	17.2 12.4 11.0 11.6 10.9 19.2 20.0
Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt Wichita Falls Area: Wichita Falls, Clay Co. & Wichita Co. Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young Abilene Area: Abilene, Callaghan Co., Jones Co. & Taylor Co. Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton San Angelo Area: San Angelo & Tom Green Co. Non-MSA Counties of Coke, Concho, Crockett, Irion, Kimble, McCullough, Mason, Menard, Reagan, Runnels, San Saba, Schleicher, Sterling, Sutton & Theolagy of the set	17.2 12.4 11.0 11.6 10.9 19.2 20.0

San Antonio Area:			
Laredo & Webb Co.	87.3		
San Antonio, Bexar Co., Comal Co. & Guadalupe Co.			
Non-MSA Counties of Atascosa, Bandera, Dimmit, Edwards, Frio, Gillespie,			
Gonzales, Jim Hogg, Karnes, Kendall, Kerr, Kinney, La Salle, McMullen,			
Maverick, Medina, Real, Uvalde, Val Verde, Wilson, Zapata & Zavala			
Corpus Christi Area:			
Corpus Christi, Nueces Co. & San Patricio Co.	41.7		
Non-MSA Counties of Aransas, Bee, Brooks, Duval, Jim Wells, Kenedy, Kleburg,	44.2		
Live Oak & Refugio			
Brownsville, McAllen, Harlingen Area:			
Brownsville, Harlingen, San Benito & Cameron Co.	71.0		
McAllen, Pharr, Edinburg & Hidalgo Co.	72.8		
Non-MSA Counties of Starr & Willacy	72.9		
Odessa, Midland Area:			
Midland & Midland Co.	19.1		
Odessa & Ector Co.	15.1		
Non-MSA Counties of Andrews, Crane, Glasscock, Howard, Loving, Martin,			
Pecos, Reeves, Upton, Ward & Winkler			
<u>El Paso Area:</u>			
El Paso & El Paso Co.	57.8		
Non-MSA Counties of Brewster, Culbertson, Hudspeth, Jeff Davis & Presidio	49.0		
Lubbock Area:			
Lubbock & Lubbock Co.	19.6		
Non-MSA Counties of Bailey, Borden, Cochran, Crosby, Dawson, Dickens, Floyd,	19.5		
Gaines, Garza, Hale, Hockley, King, Lamb, Lynn, Motley, Terry & Yoakum			
Amarillo Area:			
Amarillo, Potter Co. & Randall Co.	9.3		
Non-MSA Counties of Armstrong, Briscoe, Carson, Castro, Childress,	11.0		
Collingsworth, Dallam, Deat Smith, Donley, Gray, Hall, Hansford, Hartley,			

END OF SECTION

Hemphill, Hutchinson, Lipscomb, Moore, Ochiltree, Oldham, Parmer, Roberts,

Sherman, Swisher, & Wheeler

SECTION 00 73 19.13

NOTICE TO CONTRACTORS

TEXAS ADMINISTRATIVE CODE TITLE 28, PART 2, CHAPTER 110, SUBCHAPTER B, RULE §110.110

Reporting Requirements for Building or Construction Projects for Governmental Entities

Attached to this Document is material from the Texas Workers' Compensation Commission which is required to be included in building or construction Bid and Contract Documents, on and after September 1, 1994.

By way of summary, a new rule requires that Contractors, Subcontractors, and any others providing services (including deliveries to the job site) or work which relates to a building or construction project must be covered by Workers' Compensation Insurance (or authorized self-insurance). The rule requires that certain Workers' Compensation Insurance provisions must be included both in the Contract with the successful Bidder and in that Bidder's Contracts with others who will provide services or work which relates to a building or construction project.

Most significantly, the successful Bidder must:

- 1) Provide a Certificate of Coverage to the Owner before it may be awarded the Contract;
- 2) Obtain from each person providing services on a project, a Certificate of Coverage. Such a Certificate must be obtained by the successful Bidder, and provided to the Owner, before an individual may begin work on the project. This is so that the Owner will have on file Certificates of Coverage for all person providing services on the project;
- 3) Obtain, and provide to the Owner, updated Certificates showing extension of coverage if coverage expires during the term of the project;
- 4) Notify the Owner in writing, by Certified Mail or personal delivery, within ten (10) days after he knows or should know, of any change that materially affects the provision of coverage of any person providing services on the project; and,
- 5) Post the required notice at the job site.

This cover page is not intended to recite all of the requirements of the attached rule. The language of the rule controls and the attached material shall be deemed incorporated into both the Bid Documents and Contract concerning the project as if set out in full in each Document. Further, to the extent the attached material cannot be reconciled with provision already in either the Bid Documents or Contract, then the attached material shall control.

OWNER	CONTRACTOR	
Ву:	Ву:	
Title:	Title:	
ATTEST		
By:	Ву:	
Title:	Title:	

Texas Administrative CodeTITLE 28INSURANCEPART 2TEXAS DEPARTMENT OF INSURANCE, DIVISION OF WORKERS'
COMPENSATIONCHAPTER 110REQUIRED NOTICES OF COVERAGESUBCHAPTER BEMPLOYER NOTICESRULE §110.110Reporting Requirements for Building or Construction Projects for
Governmental Entities

- (a) The following words and terms, when used in this rule, shall have the following meanings, unless the context clearly indicates otherwise. Terms not defined in this rule shall have the meaning defined in the Texas Labor Code, if so defined.
 - (1) Certificate of coverage (certificate)--A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a workers' compensation coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project, for the duration of the project.
 - (2) Building or construction--Has the meaning defined in the Texas Labor Code, §406.096(e)(1).
 - (3) Contractor--A person bidding for or awarded a building or construction project by a governmental entity.
 - (4) Coverage--Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).
 - (5) Coverage agreement--A written agreement on form TWCC-81, form TWCC-82, form TWCC-83, or form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Texas Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G, as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.
 - (6) Duration of the project--Includes the time from the beginning of work on the project until the work on the project has been completed and accepted by the governmental entity.
 - (7) Persons providing services on the project ("subcontractor" in §406.096 of the Act)--With the exception of persons excluded under subsections (h) and (i) of this section, includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes but is not limited to independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity furnishing persons to perform services on the project. "Services" includes but is not limited to providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
 - (8) Project--Includes the provision of all services related to a building or construction contract for a governmental entity.
- (b) Providing or causing to be provided a certificate of coverage pursuant to this rule is a representation by the insured that all employees of the insured who are providing services on the project are covered by workers' compensation coverage, that the coverage is based on proper reporting of classification codes and payroll amounts, and that all coverage agreements have been filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading certificates of coverage, or failing to provide or maintain required coverage, or failing to report any change that materially affects the provision of coverage may subject the contractor or other person providing services on the project to administrative penalties, criminal penalties, civil penalties, or other civil actions.

- (c) A governmental entity that enters into a building or construction contract on a project shall:
 - (1) include in the bid specifications, all the provisions of paragraph (7) of this subsection, using the language required by paragraph (7) of this subsection;
 - (2) as part of the contract, using the language required by paragraph (7) of this subsection, require the contractor to perform as required in subsection (d) of this section;
 - (3) obtain from the contractor a certificate of coverage for each person providing services on the project, prior to that person beginning work on the project;
 - (4) obtain from the contractor a new certificate of coverage showing extension of coverage:(A) before the end of the current coverage period, if the contractor's current certificate of
 - coverage shows that the coverage period ends during the duration of the project; and
 - (B) no later than seven days after the expiration of the coverage for each other person providing services on the project whose current certificate shows that the coverage period ends during the duration of the project;
 - (5) retain certificates of coverage on file for the duration of the project and for three years thereafter;
 - (6) provide a copy of the certificates of coverage to the commission upon request and to any person entitled to them by law; and
 - (7) use the language contained in the following Figure 1 for bid specifications and contracts, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation: "REQUIRED WORKERS' COMPENSATION COVERAGE"
 - "The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee."
 - "Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage."

(d) A contractor shall:

- provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;
- (2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;
- (3) provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project;
- (4) obtain from each person providing services on a project, and provide to the governmental entity:
 - (A) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
 - (B) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
- (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (6) notify the governmental entity in writing by certified mail or personal delivery, within ten days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;
- (7) post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English

and Spanish and any other language common to the worker population. The text for the notices shall be the following text provided by the commission on the sample notice, without any additional words or changes:<u>Attached Graphic</u>

- (8) contractually require each person with whom it contracts to provide services on a project to:
 - (A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;
 - (B) provide a certificate of coverage to the contractor prior to that person beginning work on the project;
 - (C) include in all contracts to provide services on the project the language in subsection
 (e)(3) of this section;
 - (D) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (E) obtain from each other person with whom it contracts, and provide to the contractor:
 - (i) a certificate of coverage, prior to the other person beginning work on the project; and
 - (ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (G) notify the governmental entity in writing by certified mail or personal delivery, within ten days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (H) contractually require each other person with whom it contracts, to perform as required by subparagraphs (A)-(H) of this paragraph, with the certificate of coverage to be provided to the person for whom they are providing services.
- (e) A person providing services on a project, other than a contractor, shall:
 - provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;
 - (2) provide a certificate of coverage as required by its contract to provide services on the project, prior to beginning work on the project;
 - (3) have the following language in its contract to provide services on the project: "By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the governmental entity that all employees of the person signing this contract who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions."
 - (4) provide the person for whom it is providing services on the project, prior to the end of the coverage period shown on its current certificate of coverage, a new certificate showing extension of coverage, if the coverage period shown on the certificate of coverage ends during the duration of the project;
 - (5) obtain from each person providing services on a project under contract to it, and provide as required by its contract:
 - (A) a certificate of coverage, prior to the other person beginning work on the project; and
 - (B) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
- (7) notify the governmental entity in writing by certified mail or personal delivery, of any change that materially affects the provision of coverage of any person providing services on the project and send the notice within ten days after the person knew or should have known of the change; and
- (8) contractually require each other person with whom it contracts to:
 - (A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;
 - (B) provide a certificate of coverage to it prior to that other person beginning work on the project;
 - (C) include in all contracts to provide services on the project the language in paragraph(3) of this subsection;
 - (D) provide, prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
 - (E) obtain from each other person under contract to it to provide services on the project, and provide as required by its contract:
 - (i) a certificate of coverage, prior to the other person beginning work on the project; and
 - (ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the contract;
 - (F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - (G) notify the governmental entity in writing by certified mail or personal delivery, within ten days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
 - (H) contractually require each person with whom it contracts, to perform as required by this subparagraph and subparagraphs (A)-(G) of this paragraph, with the certificate of coverage to be provided to the person for whom they are providing services.
- (f) If any provision of this rule or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this rule that can be given effect without the invalid provision or application, and to this end the provisions of this rule are declared to be severable.
- (g) This rule is applicable for building or construction contracts advertised for bid by a governmental entity on or after September 1, 1994. This rule is also applicable for those building or construction contracts entered into on or after September 1, 1994, which are not required by law to be advertised for bid.
- (h) The coverage requirement in this rule does not apply to motor carriers who are required pursuant to Texas Civil Statutes, Article 6675c, to register with the Texas Department of Transportation and who provide accidental insurance coverage pursuant to Texas Civil Statutes, Article 6675c, §4(j).
- (i) The coverage requirement in this rule does not apply to sole proprietors, partners, and corporate officers who meet the requirements of the Act, §406.097(c), and who are explicitly excluded from coverage in accordance with the Act, §406.097(a) (as added by House Bill 1089, 74th Legislature, 1995, §1.20). This subsection applies only to sole proprietors, partners, and corporate executive officers who are excluded from coverage in an insurance policy or certificate of authority to self-insure that is delivered, issued for delivery, or renewed on or after January 1, 1996.

Source Note: The provisions of this §110.110 adopted to be effective September 1, 1994, 19 TexReg 5715; amended to be effective November 6, 1995, 20 TexReg 8609

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END OF SECTION

SECTION 00 73 49.13 TEXAS HOUSE BILL 560

The Contract is amended to incorporate the provisions of the Texas House Bill 560 (copy attached). To the extent any General, Special or other provision of the Contract is inconsistent with or in conflict with House Bill 560, then the terms of House Bill 560 shall control.

L18030C

LEGISLATIVE INFORMATION SYSTEM 73 (R) BILL TEXT REPORT HB 560 ENROLLED VERSION

AN ACT

relating to the payment of certain laborers, workers, and mechanics under public works contracts.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 2, Chapter 45, General Laws, Acts of the 43rd Legislature, Regular Session, 1933 (Article 5159a, Vernon's Texas Civil Statutes), is amended as follows:

The public body awarding any contract for public work on behalf of the State, or Sec. 2. (a) on behalf of any county, city and county, city, town, district or other political subdivision thereof, or otherwise undertaking any public work, shall ascertain the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft or type of workman or mechanic needed to execute the contract, and shall specify in the call for bids for said contract, and in the contract itself, what the general prevailing rate of per diem wages in the said locality is for each craft or type of workman needed to execute the contract, also the prevailing rate for legal holiday and overtime work, and it shall be mandatory upon the contractor to whom the contract is awarded, and upon any subcontractor under him, to pay not less than the said specified rates to all laborers, workmen and mechanics employed by them in the execution of the contract. Failure of the awarding body to ascertain and specify in the call for the contract the prevailing wage rate in that locality relieves the contractor or subcontractor from liability under this Act. To ascertain the general prevailing wage rate, the public body shall either conduct a survey to determine the prevailing wage based upon the wages received by classes of laborers and mechanics employed on projects of a character similar to the contract work in the city, county or other political subdivision of the State in which the work is to be performed, or adopt the prevailing wage rate as determined by the U.S. Department of Labor in accordance with the Davis-Bacon Act, if the survey on which the Davis-Bacon rate was founded was conducted within three years prior to the bidding of the project.

(b) A contractor or subcontractor in violation of this Act is liable for The contractor shall forfeit as a penalty. That contractor or subcontractor shall pay to the State, county, or city with more than 10,000 residents city and county, city, town, district or other political subdivision on whose behalf the contract is made or awarded, <u>Sixty Dollars (\$60.00)</u> Ten Dollars (\$10.00) for each laborer, workman or mechanic employed, for each calendar day, or portion thereof, such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under said contract, by him, or by any subcontractor under him, and the said public body awarding the contract shall cause to be inserted in the contract a stipulation to this effect. The money collected under this subsection shall be used by the awarding body to offset the costs incurred in the administration of this section.

(c) Upon receipt of a complaint by a laborer, workman, or mechanic or other pertinent information, the public body shall determine within 30 days whether good cause exists to believe that a contractor or subcontractor has committed a violation of this Act. The public body shall provide written notice of its determination to the contractor or subcontractor and any affected laborer, workman, or mechanic. The public body shall retain any amounts due under the contract pending a final determination of the violation.

(d) If the contractor or subcontractor and any affected laborer, workman, or mechanic fail to resolve the alleged violation by agreement within 14 days of the determination by the public body, the issues of the alleged violation, any penalties owed to the public body, and any amounts owed to any affected laborer, workman, or mechanic shall be submitted to binding arbitration in accordance with the provisions of the Texas General Arbitration Act (Art. 224 et seq., Revised Statutes). If the parties fail to agree upon an arbitrator within 10 days, the arbitrator shall be designated by the district court upon petition of any party. The decision and award of the arbitrator is final and binding upon all parties and may be enforced in any court of competent jurisdiction. The public body is not a party in the arbitration.

(e) The arbitrator shall assess and award all reasonable costs, including the arbitrator's fee, against the party or parties who fail to prevail in the proceeding. Costs may be assessed against the workman, laborer, or mechanic only if the arbitrator finds that the claim was frivolous. If the arbitrator does not find that the claim is frivolous and does not make an award to the laborer, workman, or mechanic, costs will be shared equally by the parties. If the arbitrator determines that a violation of the Act has occurred, the arbitrator shall assess and award penalties as provided in the Act and all amounts owed to the affected workman, laborer, or mechanic against the contractor or subcontractor.

(f) The public body shall use any amounts retained under this subsection to reimburse the laborer, workman, or mechanic for the amount owed to that person because of the failure to pay the person the general prevailing rate of per diem wages as provided in the arbitrator's award. The public body may adopt rules, orders, or ordinances relating to the manner in which the reimbursement is made to the laborer, workman, or mechanic. An office, agent, or employee of a public body is not liable in a civil action for any act or omission implementing or enforcing this Act unless the action was made in bad faith. The contractor is entitled to rely on a certificate by a subcontractor as to the payment of all sums due to those working for and under that subcontractor until the contrary has been determined.

(g) If the amounts withheld by, if any, the public body under Subsection (c) of this section are insufficient to fully reimburse the laborer, workman, or mechanic for amounts owed to that person under the terms of this Act, that person has a right of action against the contractor or subcontractor and the surety of that person to recover any amounts owed, reasonable attorney's fees and court costs.

(h) It shall be the duty of such public body awarding the contract, and its agents and officers, to take cognizance of complaints of all violations of the provisions of this Act committed in the course of the execution of the contract, and, when making payments to the contractor of monies becoming due under said contract, to withhold and retain therefrom all sums and amounts which shall have been-forfeited or required to be retained under this section pursuant to the herein said stipulation and the terms of this Act; provided, however, that no sum shall be so withheld, retained or forfeited, except from the final payment, without a determination full investigation by the awarding body that good cause exists to believe that a violation has occurred.

(i) It shall be lawful for any contractor to withhold from any subcontractor under him sufficient sums to cover any <u>amounts</u> penalties withheld from him by the awarding body on account of the said subcontractor's failure to comply with the terms of this Act, and if payment has already been made to <u>the subcontractor</u>, <u>him</u> the contractor may <u>withhold the amount from any future payments owed to the subcontractor or</u> recover from <u>the subcontractor or the subcontractor's surety in a suit at law him</u> the amount <u>retained or forfeited</u> of the penalty or forfeiture in a suit at law.

SECTION 2. This Act takes effect September 1, 1993, and applies only to a public works contract entered on or after that date.

SECTION 3. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended.

President of the Senate

Speaker of the House

I certify that H.B. No. 560 was passed by the House on May 11, 1993, by a non-record vote; and that the House concurred in Senate amendments to H.B. No. 560 on May 24, 1993, by a non-record vote; and that the House adopted H.C.R. No. 172 authorizing certain corrections in H.B. No. 560 on May 28, 1993.

Chief Clerk of the House

I certify that H.B. No. 560 was passed by the Senate, with amendments, on May 22, 1993, by a vivavoce vote; and that the Senate adopted H.C.R. No. 172 authorizing certain corrections in H.B. No. 560 on May 29, 1993.

Secretary of the Senate

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END OF SECTION

SECTION 00 91 13.00 ADDENDUM NOTIFICATIONS

(TO BE INSERTED IF APPLICABLE)

END OF SECTION

SECTION 01 33 33.33 SUBMITTALS

PART 1 GENERAL

1.1 Description

- A. This section consists of an itemized list of documents, samples, and other materials to be submitted by the Contractor for the approval of the Engineer.
- B. This list is compiled solely to assist the Contractor in meeting the individual submittal requirements outlined in the technical specifications and is not represented as complete in any way.

1.2 Related Sections

A. 00 42 43.13 BID FORM

PART 2 EXECUTION

2.1 General Information

- A. The Contractor is responsible for supplying all documents and materials required for submittals.
- B. The Contractor is responsible for delivery and return costs for all documents and materials required for submittals.

2.2 Bid Submittals

- A. Each bidder shall submit the following Sections:
 - 1. 00 42 00.00 BID FORM, INCLUDING ADDENDUM ACKNOWLEDGEMENTS
 - 2. 00 43 13.13 BID BOND
 - 3. 00 45 13.13 STATEMENT OF BIDDERS QUALIFICATIONS
 - 4. 00 45 19.13 NON-COLLUSION AFFIDAVIT OF PRIME BIDDER
 - 5. APPENDIX A COMPLIANCE MATRIX
 - 6. APPENDIX E ITEMS A-M
 - 7. APPENDIX G DETAILED EQUIPMENT LIST
 - 8. CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS
- B. The Bidder shall submit the entire section of each.

2.3 Contract Submittals

- A. Following the Bid Award to the Successful Bidder, the Contractor shall submit the following Sections:
 - 1. 00 52 00.00 AGREEMENT
 - 2. 00 61 13.13 PERFORMANCE BOND
 - 3. 00 61 13.16 PAYMENT BOND
 - 4. 00 62 16.00 CERTIFICATE OF INSURANCE
- B. The Contractor shall execute and submit five (5) original sets of each section.
- C. Following the Bid Award to the Successful Bidder, the Contractor shall submit the following documents from the Supplemental GLO Contract Requirements Section:
 - 1. CONFLICT OF INTEREST QUESTIONNAIRE
 - 2. CONTRACTOR'S CERTIFICATE OF RECOVERED MATERIALS
 - 3. CONTRACTOR'S LOCAL OPPORTUNITY PLAN
 - 4. PROPOSED CONTRACTS BREAKDOWN
 - 5. CONTRACTOR CERTIFICATION OF EFFORTS TO FULLY COMPLY WITH EMPLOYMENT AND TRAINING PROVISIONS OF SECTION 3
 - 6. CERTIFICATION REGARDING LOBBYING
 - 7. DISCLOSURE OF LOBBYING ACTIVITIES
 - 8. CONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS
 - 9. SECTION 504 CERTIFICATION
 - 10. CHILD SUPPORT STATEMENT FOR NEGOTIATED CONTRACTS AND GRANTS
 - 11. CERTIFICATE OF INTERSTED PARTIES FORM 1295

12. NOTARIZED FORM - NO BOYCOTT ISRAEL

2.4 Shop Drawing Submittal Procedures

- A. The Contractor shall follow the procedure outlined below when processing submittals:
 - 1. Quantity
 - a. The Contractor shall transmit three (3) copies of each submittal to be retained by the Engineer.
 - b. Any copies required by the Contractor must be submitted in addition to the three (3) sets.
 - c. Digital copies of shop drawing submittals are permitted.
 - 2. Reproducibles
 - a. In addition to the three (3) copies required above, the Contractor shall also submit one (1) reproducible transparency for all shop drawings.
 - 3. Submittal Transmittal Forms
 - a. The Contractor shall use the Submittal Transmittal Form attached at the end of this Section. Sequentially number each transmittal form.
 - b. Resubmittals shall have the original submittal number with an alphabetic suffix.
 - c. On the submittal form identify the Contractor, the Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
 - 4. Contractor's Stamp
 - a. Apply Contractor's stamp, appropriately signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
 - 5. Scheduling
 - a. Schedule the submittals to expedite the Project, and deliver to the Engineer for approval.
 - b. Coordinate the submission of related items.
 - 6. Marking
 - a. Mark each copy to identify applicable products, models, options, and other data.
 - b. Supplement manufacturers' standard data to provide information unique to this Project.
 - 7. Variations
 - a. Identify any proposed variations from the Contract Documents and any Product or system limitations which may be detrimental to successful performance of the completed Work.
 - Space Requirements

 Provide adequate space for Contractor and Engineer review stamps.
 - 9. Resubmittals
 - a. Revise and resubmit submittals as required and clearly identify all changes made since previous submittal.
 - 10. Distribution
 - a. Distribute copies of reviewed submittals to Subcontractors and suppliers.
 - b. Instruct parties to promptly report any inability to comply with provisions.

2.5 Construction Progress Schedules

- A. Initial Schedule
 - 1. Submit an initial construction progress schedule within ten (10) days after the date the Notice to Proceed for the Engineer's review.
- B. Items to Include
 - 1. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities.
 - 2. Identify the first work day of each week.
- C. Re-Submission
 - 1. Revise and resubmit as required by the Engineer.
- D. Submittal Dates
 - 1. Indicate submittal dates required for all submittals.

2.6 Samples

A. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Owner's selection. Coordinate sample submittals for interfacing work.

2.7 Manufacturer's Instructions

- A. Instructions
 - 1. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, in quantities specified for Product Data.
- B. Conflicts
 - 1. Identify conflicts between manufacturers' instructions and the Contract Documents and Specifications.

2.8 Manufacturer's Certifications

- A. Conformance
 - 1. Indicate that material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.
- B. Acceptance
 - 1. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Engineer.

SUBMITTAL TRANSMITTAL FORM

PROJECT:		_	
OWNER: ENGINEER: HANSON PROFESSIONAL ENGIN	IEERING, INC.	_	
CONTRACTOR:		_	
SUBMITTAL DATE: / /	_	SUBMITTAL #:	
SUBMITTAL		APPLICABLE SPECIFICATIO	NC
	SUBMITTAL #:	PAGE	OF

SECTION 01 55 26.13 TRAFFIC CONTROL

PART 1 GENERAL

1.1 Description

A. This specification shall govern all work required for the furnishing, installation, moving, maintenance, and removal of Traffic Control as required to complete the project.

1.2 Related Sections

A. 00 42 43.13 BID FORM

1.3 References

The latest edition of the referenced item below shall be used.

- A. Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- B. Texas Department of Transportation (TxDOT) Standard Specification for Construction and Maintenance of Highways, Streets, and Bridges Item 502 "Barricades, Signs, and Traffic Handling"

1.4 Submittals

- A. Conform to the requirements of project.
- B. Contractor shall furnish copies of certifications from manufacturers of traffic control devices regarding compliance to the specifications, TMUTCD, and applicable references.
- C. Contractor shall furnish copies of certifications from manufacturers of the lights that the warning lights meet the requirements of the ITE Standard for Flashing and Steady Burn Warning Lights, when requested.
- D. The name and off-hours phone number of the Contractors Responsible Person shall be provided in writing at the Pre-Construction Conference.
- E. The Traffic Control Plan (TCP) shall be provided by the Contractor and submitted to the Traffic Engineer three (3) working days prior to commencing work for approval.

PART 2 PRODUCTS

2.1 General

A. Traffic control devices shall conform to the latest edition of Texas Manual on Uniform Traffic Control Devices (TMUTCD), unless indicated otherwise, in the Traffic Control Plan (TCP).

2.2 Materials for Temporary Traffic Control Devices

- 1. All traffic control devices shall conform to the TMUTCD.
- 2. All traffic control devices shall be provided by the Contractor as required by the Traffic Control Plan (TCP) and requested by the City Traffic Engineer, Traffic Design Engineer, Project Engineer, Inspector, and Texas Department of Transportation.

2.3 Traffic Control Plan (TCP)

- A. The Traffic Control Plan (TCP) shall be provided by the Contractor and shall be in accordance with the regulations set forth within the TMUTCD.
- B. If a TCP is provided within the plans, it shall serve as a guide and not relieve the Contractor from the responsibility of providing a TCP, unless otherwise noted.

PART 3 EXECUTION

3.1 General Information

- A. The Contractor is to supply sufficient traffic control measures to assure a safe condition and to provide a minimum of inconvenience to motorists.
- B. The Contractor may employ a legitimate traffic control device company to supply the required devices.

3.2 Contractors Responsible Person (CRP)

- A. The Contractor shall designate a competent person who is responsible for taking and directing corrective measures of installation and maintenance deficiencies as soon as possible.
- B. The competent person shall be on site during working hours.
- C. The competent person must be accessible by phone and able to respond to emergencies 24 hours per day and for every day that the Contractor has traffic control devices in use.
- D. If work is to be done and the competent person will not be available or on site then the Contractor shall designate another competent person and provide all required items.

3.3 Traffic Control Plan (TCP)

- A. Implementation
 - 1. The Contractor is responsible for implementing the TCP as approved.
 - 2. Upon completion of the installation the CRP shall contact the Traffic Engineer to make this person aware of the devices.
 - 3. It is the Contractor's responsibility to see that all traffic control devices are properly installed and maintained in accordance with the Traffic Control Plan (TCP), the Texas Manual on Uniform Traffic Control Devices (TMUTCD), and as requested by the City Traffic Engineer, Traffic Design Engineer, Project Engineer, Inspector, and Texas Department of Transportation (TxDOT).
 - 4. All locations and distances shall be in conformance with the details supplied by the Traffic Design Engineer, the Construction Traffic Coordinator and the TMUTCD.
 - 5. Anytime a Contractor's vehicle occupies a street open to vehicular traffic, or doing the work in the street adequate advance traffic control devices shall be used as required by the TMUTCD.
 - 6. Any trenches or holes left overnight or any other such hazard to the public the Contractor shall be adequately covered and barricaded with reflective standard barricades equipped with warning flashers or as directed by the Engineer.
- B. TCP Deviations
 - 1. Major Deviations
 - a. All deviations that require the TCP to be modified due to site requirements and safety reasons are to be approved by the CRP and Traffic Engineer prior to implementing the change.
 - 2. Minor Changes
 - a. All minor deviations relating to visibility or minor constructability concerns shall be approved by the CRP and noted on the plans.
- C. A copy of the TCP shall be onsite at all times for review and any minor changes to the plan shall be noted.

3.4 Maintenance

- A. Maintenance shall include but not be limited to the cleaning, replacing, straightening, covering, correcting deficiencies, or removing devices.
 - 1. Note: Correcting deficiencies shall be done immediately upon discovery or being directed by the Engineer.
- B. Maintenance shall be completed in a manner that will not create unsafe conditions for workers and the public.
 - 1. Note: Maintenance activities may require additional signage or flaggers.
 - The CRP shall check and maintain all traffic devices onsite daily as noted below:
 - 1. Work done during day only
 - a. The CRP shall check that all traffic devices are in compliance with the current TCP at the beginning of the work day and at the end of the work day.
 - 2. Work done during night only
 - a. The CRP shall check that all traffic devices are in compliance with the current TCP at the beginning of the work day, every four (4) hours after beginning work, and at the end of the work day.
 - 3. Work done twenty-four (24) hours a day
 - a. The CRP shall check that all traffic devices are in compliance with the current TCP and shall follow the requirements of day and night as stated above.

C.

3.5 Removal

- A. Upon completion of the work which requires the traffic control devices:
 - 1. Remove all devices as shown on plans, or
 - 2. Remove all devices as directed by the Engineer.
- B. Removal of devices shall be completed in a manner that will not create unsafe conditions for workers and the public.
 - 1. Note: The use of temporary signs or flaggers may be required.

PART 4 MEASUREMENT

4.1 Measurement

- A. Measurement for this section will be as indicated within SECTION 00 42 00 BID FORM.
- B. If this section is not itemized within SECTION 00 42 00 BID FORM then it is to be considered subsidiary to the applicable section(s).

4.2 Payment

- A. Payment for this section will be as indicated within SECTION 00 42 00 BID FORM.
- B. Payment shall fully compensate the Contractor for all required labor, materials, equipment, maintenance, and all incidental expenses which are required to complete the work in accordance with the Plans and Specifications.
- C. If this section is not indicated within SECTION 00 42 00 BID FORM then it is to be considered subsidiary to the applicable section(s).

END OF SECTION

SUPPLEMENTAL GENERAL LAND OFFICE (GLO) CONTRACT REQUIREMENTS

Equal Opportunity Guidelines for Construction Contractors

Note: To be included in bid packet and distributed at the preconstruction conference (optional)

1. What are the responsibilities of the offeror or bidder to ensure equal employment opportunity?

For contracts over \$ 10,000, the offeror or bidder must comply with the "Equal Opportunity Clause" and the "Standard Federal Equal Opportunity Construction Contract Specifications."

2. Are construction contractors required to ensure a legal working environment for all employees?

Yes, it is the construction contractor's responsibility to provide an environment free of harassment, intimidation, and coercion to all employees and to notify all foremen and supervisors to carry out this obligation, with specific attention to minority or female individuals.

3. To alleviate developing separate facilities for men and women on all sites, can a construction contractor place all women employees on one site?

No, two or more women should be assigned to each site when possible.

4. Are construction contractors required to make special outreach efforts to Section 3 or minority and female recruitment sources?

Yes, construction contractors must establish a current list of Section 3, minority and female recruitment sources. Notification of employment opportunities, including the availability of on-the-job training and apprenticeship programs, should be given to these sources. The efforts of the construction contractors should be kept in file.

5. Should records be maintained on the number of Section 3 residents, minority and females applying for positions with construction contractors?

Yes, records must be maintained to include a current list of names, addresses and telephone numbers of all Section 3, minority and female applicants. The documentation should also include the results of the applications submitted.

6. What happens if a woman or minority is sent to the union by the Contractor and is not referred back to the Contractor for employment?

If the unions impede the construction contractor's responsibility to provide equal employment opportunity, a written notice should be submitted to GLO.

7. What efforts are made by construction contractors to create entry-level positions for Section 3 residents, women and minorities?

Construction contractors are required to develop on-the-job training programs, or participate in training programs, especially those funded by the Department of Labor, to create positions for Section 3 residents, women and minorities and to meet employment needs.

8. Are any efforts made by the Contractor to publicize their Equal Employment Opportunity (EEO) policy?

Yes, the construction contractor is responsible for notifying unions and sources of training programs of their equal employment opportunity policy. Unions should be requested to cooperate in the effort of equal opportunity. The policy should be included in any appropriate manuals, or collective bargaining agreements. The construction contractor is encouraged to publicize the equal employment opportunity policy in the company newspaper and annual report. The Contractor is also responsible to include the EEO policy in all media advertisement.

9. Are any in-service training programs provided for staff to update the EEO policy?

At least annually a review of the EEO policy and the affirmative action obligations are required of all personnel employees of a decision-making status. A record of the meeting including date,

time, location, persons present, subject matter discussed, and disposition of the subject matter should be maintained.

10. What recruitment efforts are made for Section 3 residents, minorities and women?

The construction contractor must notify, both orally and in writing, Section 3, minority and female recruitment sources one month prior to the date of acceptance for apprenticeship or other training programs.

11. Are any measures taken to encourage promotions for minorities and women?

Yes, an annual evaluation should be conducted for all minority and female personnel to encourage these employees to seek higher positions.

12. What efforts are taken to ensure that personnel policies are in accordance with the EEO policy?

Personnel policies in regard to job practices, work assignments, etc. should be continually monitored to ensure that the EEO policy is carried out.

13. Can women be excluded from utilizing any facilities available to men?

No, all facilities and company activities are non-segregated except for bathrooms or changing facilities to ensure privacy.

14. What efforts should be utilized to include minority and female contractors and suppliers?

Take affirmative steps to ensure that small, minority, and women owned businesses are included on all lists for contractors/service providers. Solicit these businesses when issuing RFPs and RFQs and soliciting construction bids. Divide project activities into small tasks to allow participation. Keep records of all offers to minority and female construction contractors.

15. If a construction contractor participates in a business-related association that does not comply with equal opportunity affirmative action standards, does that show his/her failure to comply?

No, the construction contractor is responsible for its own compliance.

16. Can a construction contractor hire a subcontractor who has been debarred from government contracts pursuant to EEO?

No. The construction contractor must suspend, terminate or cancel its contract with any Subcontractor who is in violation of the EEO policy.

17. What effort has been taken by the construction contractor to monitor all employment to ensure the company EEO policy is being carried out?

The construction contractor must designate a responsible individual to keep accurate records of all employees that includes specific information required by the government.

Section 3 Policy

In accordance with 12 U.S.C. 1701u Gonzales County agrees to implement the following steps, which, to *the greatest extent feasible*, will provide <u>job training</u>, <u>employment</u> and <u>contracting opportunities</u> for Section 3 residents and Section 3 businesses of the areas in which the program/project is being carried out.

- A. Introduce and pass a resolution adopting this plan as a policy to strive to attain goals for compliance to Section 3 regulations by increasing opportunities for employment and contracting for Section 3 residents and businesses.
- B. Assign duties related to implementation of this plan to the designated Civil Rights Officer.
- C. Notify Section 3 residents and business concerns of potential new employment and contracting opportunities as they are triggered by CDBG-DR grant awards through the use of: Public Hearings and related advertisements; public notices; bidding advertisements and bid documents; notification to local business organizations such as the Chamber(s) of Commerce or the Urban League; local advertising media including public signage; project area committees and citizen advisory boards; local HUD offices; regional planning agencies; and all other appropriate referral sources. Include Section 3 clauses in all covered solicitations and contracts.
- D. Maintain a list of those businesses that have identified themselves as Section 3 businesses for utilization in CDBG-DR funded procurements, notify those businesses of pending contractual opportunities, and make this list available for general Grant Recipient procurement needs.
- E. Maintain a list of those persons who have identified themselves as Section 3 residents and contact those persons when hiring/training opportunities are available through either the Grant Recipient or contractors.
- F. Require that all Prime contractors and subcontractors with contracts over \$100,000 commit to this plan as part of their contract work. Monitor the contractors' performance with respect to meeting Section 3 requirements and require that they submit reports as may be required by HUD or GLO to the Grant Recipient.
- G. Submit reports as required by HUD or GLO regarding contracting with Section 3 businesses and/or employment as they occur; and submit reports within 20 days of the federal fiscal year end (by October 20) which identify and quantify Section 3 businesses and employees.
- H. Maintain records, including copies of correspondence, memoranda, etc., which document all actions taken to comply with Section 3 regulations.

As officers and representatives of Gonzales County, we the undersigned have read and fully agree to this plan, and become a party to the full implementation of this program.

Gonzales Cou 04-07-2020 Date Signature

09/01/2019

RESOLUTION NO. REGARDING CIVIL RIGHTS - GONZALES COUNTY, TEXAS

WHEREAS, Gonzales County, Texas, (hereinafter referred to as "Gonzales County") has been awarded CDBG funding through a CDBG grant from the General Land Office (hereinafter referred to as "GLO");

WHEREAS, Gonzales County, in accordance with Section 109 of the Title I of the Housing and Community Development Act. (24 CFR 6); the Age Discrimination Act of 1975 (42 U.S.C. 6101-6107); and Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and for construction contracts greater than \$10,000, must take actions to ensure that no person or group is denied benefits such as employment, training, housing, and contracts generated by the CDBG-DR activity, on the basis of race, color, religion, sex, national origin, age, or disability;

WHEREAS, Gonzales County, in consideration for the receipt and acceptance of federal funding, agrees to comply with all federal rules and regulations including those rules and regulations governing citizen participation and civil rights protections;

WHEREAS, Gonzales County, in accordance with Section 3 of the Housing and Urban Development Act of 1968, as amended, and 24 CFR Part 135, is required, to the greatest extent feasible, to provide training and employment opportunities to lower income residents and contract opportunities to businesses in the CDBG-DR project area;

WHEREAS, Gonzales County, in accordance with Section 104(1) of the Housing and Community Development Act, as amended, and State's certification requirements at 24 CFR 91.325(b)(6), must adopt an excessive force policy that prohibits the use of excessive force against non-violent civil rights demonstrations;

WHEREAS, Gonzales County, in accordance with Section 504 of the Rehabilitation Act of 1973, does not discriminate on the basis of disability and agrees to ensure that qualified individuals with disabilities have access to programs and activities that receive federal funds; and

WHEREAS, Gonzales County, in accordance with Section 808(e)(5) of the Fair Housing Act (42 USC 3608(e)(5)) that requires HUD programs and activities be administered in a manner affirmatively to further the policies of the Fair Housing Act, agrees to conduct at least one activity during the contract period of the CDBG-DR contract, to affirmatively further fair housing;

WHEREAS, Gonzales County, agrees to 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.

NOW, THEREFORE, BE IT RESOLVED BY THE COMMISSIONERS COURT OF GONZALES COUNTY, TEXAS, THAT GONZALES COUNTY ADOPTS THE FOLLOWING:

- 1. Citizen Participation Plan and Grievance Procedures;
- Section 3 Policy;
- 3. Excessive Force Policy;

4. Section 504 Policy and Grievance Procedures: and

5. Fair Housing Policy.

Passes and Approved this 24 day of February 2020

Printed Name of Elected Official Gonzales County

Date:

O.W. fiddor Rett m) de

nature of Elected Official

Gonzales County

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.	OFFICE USE ONLY			
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).	Date Received			
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. <i>See</i> 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.				
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 re completed questionnaire with the appropriate filing authority not later than the 7th busines you became aware that the originally filed questionnaire was incomplete or inaccurate.)	equires that you file an updated as day after the date on which			
3 Name of local government officer about whom the information is being disclosed.				
Name of 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				
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.				
 Check this box if the vendor has given the local government officer or a family member as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.07 	of the officer one or more gifts 003(a-1).			
Comparison of yourday doing huming a with the supermentation of the				
Signature or vendor doing business with the governmental entity	Date Revised 11/30/2015			

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

 $(\tilde{\mathbf{i}})$ 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.

Form provided by Texas Ethics Commission

www.ethics.state.tx.us

Revised 11/30/2015

CONTRACTOR'S CERTIFICATION of RECOVERED MATERIAL

ACKNOWLEDGEMENT

I, _____(Principal's Name)_ of _____(Company Name)_____, (hereinafter called "Contractor"), acknowledge the recovered material bidding requirements found in 2 CFR 200.322 that requires the Contractor to procure those items designated in the guidelines of the Environmental Protection Agency (EPA) at 40 CFR 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition.

I also acknowledge that this requirement shall apply to items purchased (1) where the Contractor purchases in excess of \$10,000 of the item under this contract; or (2) where during the preceding fiscal year, the value of the quantity acquired was in excess of \$10,000.

Finally, I acknowledge the attached list of recovered materials included in the bid documents. (For up-to-date listing, please go to https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program#directory)

Printed Name and Title

Signature

Date

USE OF RECOVERED MATERIAL

Please check one:

Recovered materials are included in this bid: Materials included

Recovered materials are not reasonably available in a reasonable period of time.

Recovered materials fail to meet reasonable performance standards, which are determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable.

Recovered materials are only available at an unreasonable price.

Printed Name and Title

Signature

Date

U.S. Department of Housing and Urban Development			
CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS			
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.			
□ Yes □ No			
The undersigned hereby certifies that:			
The Provision of Local Training, Employment, and Business Opportunities clause (Section 3 provision) is included in the Contract. A written Section 3 plan (Local Opportunity Plan) was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$100,000)			
□ The Equal Opportunity 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?			
□ Yes □ No			
NAME AND TITLE OF SIGNER (Please type)			
SIGNATURE			

CONTRACTOR'S LOCAL OPPORTUNITY PLAN

<u>(name of company)</u> agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within Gonzales County.

- A. To ascertain from the County's CDBG program official the exact boundaries of the project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.
- B. To attempt to recruit from within the County the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within and servicing the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.
- C. To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
- D. To insert this plan in all bid documents and to require all bidders on subcontracts to submit an affirmative action plan including utilization goals and the specific steps planned to accomplish these goals.
- E. To ensure that subcontracts (greater than \$10,000), which are typically let on a negotiated rather than a bid basis in areas other than the covered project area, are also let on a negotiated basis, whenever feasible, in a covered project area.
- F. To formally contact unions, subcontractors, and trade associations to secure their cooperation in this effort.
- G. To ensure that all appropriate project area business concerns are notified of pending sub-contractual opportunities.
- H. To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.
- I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this plan.
- J. To maintain records concerning the amount and number of contracts, subcontracts, and purchases which contribute to objectives.
- K. To maintain records of all projected work force needs for all phases of the project by occupation, trade, skill level, and number of positions and to update these projections based on the extent to which hiring meets these Local Opportunity objectives.

As officers and representatives of <u>(name of company)</u>, we the undersigned have read and fully agree to this Plan and the County's Section 3 Plan and become a party to the full implementation of the program and its provisions.

Signature

Printed Name

Title

Date

Instructions for Proposed Contracts Breakdown and Estimated Project Workforce Breakdown

Proposed Contracts Breakdown

<u>Type of Contracts</u> – list all construction, materials, or other types of subcontracts (for example: electrical, plumbing, concrete, boring, etc.)

No. of Contracts – Number of contracts under this category

Approximate Total Dollar Amount – Total amount of each contract

Estimated No. to Local Business – Number of contracts awarded to local businesses and Section 3 businesses

<u>Estimated \$ Amount to Local Business</u> - How many dollars will be spent locally for each type of contract? For example: will you hire any local employees or subcontractors?

Estimated Project Workforce Breakdown

Work Classifications - Classification of project employees as defined on Wage Rate

<u>Total Estimated Positions</u> – List the number employees for each work classification will you need on this project

Number of Positions Currently Filled – List the number of estimated positions you currently have filled

Number of Positions Not Filled – List the number of estimated positions you currently do not have filled

<u>Number of Positions to Fill with Low to Moderate Income (Section 3) Residents</u> – List the number of local residents earning low to moderate incomes that you plan to employ to fill the estimated positions not filled

PROPOSED CONTRACTS BREAKDOWN

Type of Contracts	No. of Contracts	Approx. Total Dollar Amount	Estimated No. to local Business	Estimated \$ Amount Local Business

ESTIMATED PROJECT WORKFORCE BREAKDOWN

Work Classifications	Total Estimated Positions	No. of Positions Currently Filled	No. of Positions not Filled	No. of Positions to fill with LMI Residents (Section 3)
Totals				

Grantee/Subrecipient: Include this document in all applicable bid packets.

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Texas General Land Office

Community Development Block Grant (CDBG) Disaster Recovery Program

Contractor Certification of Efforts to Fully Comply with Employment and Training Provisions of Section 3

Economic Opportunities for Low and Very Low-Income Persons
THE BIDDER REPRESENTS AND CERTIFIES AS PART OF ITS BID/OFFER THAT IT:
 Is a Section 3 Business Concern. A Section 3 Business Concern means a business concern: That is 51% or more owned by Section 3 Resident(s); or Whose permanent, full-time employees include persons, at least 30% of whom are currently Section 3 Residents, or That provides evidence of a commitment to subcontract in excess of 25% of the dollar value of all subcontracts to be awarded to Section 3 Business Concerns, that meet the qualifications set forth in paragraphs 1 or 2 herein.
Is NOT a Section 3 Business Concern, but who has and will continue to seek compliance with Section 3 by certifying the following efforts to be undertaken.
EFFORTS TO AWARD SUBCONTRACTOR TO SECTION 3 CONCERNS (Check ALL that apply)
By contacting business assistance agencies, minority contractors associations and community organizations to inform them of the contracting opportunities and requesting their assistance in identifying Section 3 businesses which may solicit bids for a portion of the work.
By advertising contracting opportunities by posting notices, which provide general information about the work to be contracted and where to obtain additional information, in the common areas of the applicable development(s) owned and managed by the Housing Authority.
By providing written notice to all known Section 3 Business Concerns of contracting opportunities. This notice should be in sufficient time to allow the Section 3 Business Concerns to respond to bid invitations
By following up with Section 3 Business Concerns that have expressed interest in the contracting opportunities.
By coordinating meetings at which Section 3 Business Concerns could be informed of specific elements of the work for which subcontract bids are being sought.
By conducting workshops on contracting procedures and specific contracting opportunities in a timely manner so that Section 3 Business Concerns can take advantage of contracting opportunities.
By advising Section Business Concerns as to where they seek assistance to overcome barriers such as inability to obtain bonding, lines of credit, financing, or insurance and aiding Section 3 Businesses in qualifying for such bonding , financing, insurance, etc
Where appropriate, by breaking out contract work into economically feasible units to facilitate participation by Section 3 businesses.
By developing and using a list of eligible Section 3 Business Concerns.
By actively supporting and undertaking joint ventures with Section 3 Businesses.
EFFORTS TO PROVIDE TRAINING AND EMPLOYMENT TO SECTION 3 RESIDENTS
By entering into a "first source" hiring agreements with organizations representing Section 3 Residents.
By establishing training programs, which are consistent with the requirements of the Department of Labor, specifically for Section 3 Residents in the building trades.
By advertising employment and training positions to dwelling units occupied by Category 1 and 2 residents.
By contacting resident councils and other resident organizations in the affected housing development to request assistance in notifying residents of the training and employment positions to be filled.
By arranging interviews and conducting interviews on the job site.
By undertaking such continued job ⁺ training efforts as may be necessary to ensure the continued employment of Section 3 Residents previously hired for employment opportunities.
Contractor Name/Business Name:

Signature Field

Date/Time Field

CERTIFICATION REGARDING LOBBYING COMPLIANT WITH APPENDIX A TO 24 C.F.R. PART 87*

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

Certification for Contracts, Grants, Loans, and Cooperative Agreements:

The undersigned certifies, to the best of his or her knowledge and belief, 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 section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance:

The undersigned states, to the best of his or her knowledge and belief, that: If any 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 commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

As the duly authorized representative of the Contractor, I hereby certify that the applicant will comply with the above applicable certification.

Signature of Contractor's Authorized Official

Printed Name and Title of Contractor's Authorized Official

Date

*24 C.F.R. 87 App. A, available at https://www.gpo.gov/fdsys/granule/CFR-2011-title24-vol1/CFR-2011-title24-vol1-part87-appA. Published Apr. 1, 2011. Accessed Aug. 1, 2018.

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether sub awardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity 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 a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

- 1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
- 2. Identify the status of the covered Federal action.
- 3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
- 4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or sub-award recipient. Identify the tier of the sub-awardee, e.g., the first sub-awardee of the prime is the 1st tier. Sub-awards include but are not limited to subcontracts, sub-grants and contract awards under grants.
- 5. If the organization filing the report in item 4 checks "Sub-awardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
- 6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
- 7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
- 8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitations for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Included prefixes, e.g., "RFP-DE-90-001."
- 9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
- 10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services and include full address if different from 10(a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB control Number. The valid OMB control number for this information collection is OMB No. 4040-0013. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (4040-0013), Washington, DC 20503

Approved by OMB 4040-0013

Disclosure of Lobbying Activities

Complete this form	n to disclose	lobbyin	g activities	s pursuant t	o 31 U.S.C. 1352
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(See reverse for public burden disclosure)
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1. Type of Federal Action: 2. Status of a. contract a. bid/o b. grant b. initia c. cooperative agreement c. post- d. loan e. loan guarantee f. loan insurance f. loan	of Federal Action: 3. Report Type: offer/application a. initial filing award b. material change -award For material change only: Year quarter Date of last report	
A. Name and Address of Reporting Entity: Prime Subawardee Tier, if Known:	5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:	
Congressional District, if known:	Congressional District, if known:	
 6. Federal Department/Agency: 8. Federal Action Number, <i>if known:</i> 10. a. Name and Address of Lobbying Registrant (<i>if individual, last name, first name, MI</i>): 	 7. Federal Program Name/Description: CFDA Number, <i>if applicable</i>:	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature:	
Federal Use Only	Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)	

GENERAL CONDITIONS - PART I FOR CONSTRUCTION

1. Contract and Contract Documents

- a. The project to be constructed pursuant to this contract will be financed with assistance from the General Land Office (GLO) through the Community Development Block Grant Mitigation (CDBG-MIT) fund and is subject to all applicable Federal and State laws and regulations.
- b. The Plans, Specifications and Addenda shall form part of this contract and the provisions thereof shall be binding upon the parties as if they were herein fully set forth.

2. 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 Gonzales County hereinafter called the "Owner" and <u>(Name of Construction Co.)</u>, hereinafter called "Contractor", of which these GENERAL CONDITIONS, form a part.
- (b) The term "Project Area" means the area within the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.
- (c) The term "Engineer" means <u>Hanson Professional Services, Inc.</u>, Engineer in charge, serving the Owner with architectural or engineering services, his successor, or any other person or persons, employed by the Owner for the purpose of directing or having in charge the work embraced in this Contract.
- (d) 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).

3. Supervision By Contractor

- (a) Except where the Contractor is an individual and personally supervises the work, the Contractor shall provide a competent superintendent, satisfactory to the Engineer, on the work at all times during working hours with full authority to act as Contractor's agent. The Contractor shall also provide adequate staff for the proper coordination and expediting of his work.
- (b) The Contractor shall be responsible for all work executed under the Contract. Contractor 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.

4. 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 Contractor has verified the subcontractor has been cleared (not suspended or debarred) to participate in federally funded contracts.

- (b) No proposed subcontractor shall be disapproved by the Owner except for cause.
- (c) The Contractor shall be as fully responsible to the Owner 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 and required compliance by each subcontractor with the applicable provisions of the Contract.
- (e) Nothing contained in the Contract shall create any contractual relation between any subcontractor and the Owner.
- (f) Contractors are encouraged to subcontract with Minority Business Enterprises, Small Business Enterprises, Women Business Enterprises, and labor surplus area firms.
- 5. 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.

- 6. Payments to Contractor
- (a) Partial Payments
 - 1) The Contractor shall prepare the requisition for partial payment as of the last day of the month and submit it, with the required number of copies, to the Engineer for approval. 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%) 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 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 Engineer.
 - 2) Monthly or partial payments made by the Owner to the Contractor are 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 Owner. Such payments shall not constitute a waiver of the right of the Owner 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 Owner in all details.
- (b) Final Payment
 - After final inspection and the acceptance by the Owner of all work under the Contract, the Contractor shall prepare the 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 Contract. 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) Before paying the final estimate, Owner shall require the Contractor to furnish releases 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. The Owner may 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.
- 3) Any amount due the Owner 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 Owner shall be made subject to submission by the Contractor of all written certifications required of it and its subcontractors.

(d) Withholding Payments

The Owner may withhold any payment due the Contractor as deemed necessary to protect the Owner, 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 Owner and will not require the Owner to determine or adjust any claims or disputes between the Contractor and its subcontractors or material dealers, or to withhold any moneys for their protection unless the Owner elects to do so. The failure or refusal of the Owner 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.

- 7. Changes in the Work
- (a) The Owner 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 obligations under the Contract or any guarantee given 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. Additionally, all such change orders must be approved by CDBG-DR prior to execution of same.
- (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 Owner 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 Contract, the Owner 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 eighteen percent (18%).
- (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.

8. 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 Owner, 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 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 Owner and work shall not proceed except at the Contractor's risk, until written instructions have been received from the Owner.
- (d) If, on the basis of the available evidence, the Owner determines that an adjustment of the Contract Price and/or time is justifiable, a change order shall be executed.
- 9. Termination, Delays, and Liquidated Damages

Right of the Owner to Terminate Contract for Convenience

Owner may at any time and for any reason terminate Contractor's services and work at County's convenience upon providing written notice to the Contractor specifying the extent of termination and the effective date. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement.

Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus, (2) such other costs actually incurred by Contractor as are permitted by the prime contract and approved by Owner. There shall be deducted from such sums as provided in this subparagraph the amount of any payments made to Contractor prior to the date of the termination of this Agreement. Contractor shall not be entitled to any claim or claim of lien against Owner for any additional compensation or damages in the event of such termination and payment.

Right of the Owner to Terminate Contract for Cause

If the Contractor fails to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor violates any of the covenants, conditions, agreements, or stipulations of this Agreement, the Owner shall have the right to terminate this Agreement by giving written notice to the Contractor of such termination and specifying the effective date thereof, which shall be at least five days before the effective date of such termination. In the event of termination for cause, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by the Contractor pursuant to this Agreement shall, at the option of the Owner, be turned over to the Owner and become the property of the Owner. In the event of termination for cause, the Contractor shall be entitled to receive reasonable compensation for any necessary services actually and satisfactorily performed prior to the date of termination.

Notwithstanding the above, the Contractor shall not be relieved of liability to the Owner for damages sustained by the Owner by virtue of any breach of contract by the Contractor, and the Owner may set-off the damages it incurred as a result of the Contractor's breach of contract from any amounts it might otherwise owe the Contractor. 2 CFR 200 APPENDIX II(B)

(a) Liquidated Damages for Delays.

If the work is not completed within the time stipulated in the applicable bid for Lump Sum or Unit Price Contract provided, the Contractor shall pay to the Owner as fixed, agreed, and liquidated damages (it being impossible to determine the actual damages occasioned by the delay) the amount of <u>\$500.00</u> for each calendar day of delay, until the work is completed. The Contractor and Contractor's sureties shall be liable to the Owner for the amount thereof.

- (b) Excusable Delays.
 - 1) 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:
 - 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;
 - 3) Any acts of the Owner;
 - 4) Causes not reasonably foreseeable by the parties to this Contract at the time of execution which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, terrorism, war, acts of another Contractor in the performance of some other contract with the Owner, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.
 - 5) Provided, however, that the Contractor promptly notifies the Owner within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Owner 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 Owner shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

10. Assignment or Novation

The Contractor shall not assign nor transfer, whether by assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the Owner. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the Contractor's 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, Contractors, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

11. 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 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 Owner for review. Contractor shall be liable for any issues or expenses in the event the discrepancy is not submitted to the Owner.

12. Shop Drawings

- (a) All required shop drawings, machinery details, layout drawings, etc. shall be submitted to the Engineer in <u>TWO</u> 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 Contractor's 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) 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) If a shop drawing is in accordance with the contract or involves only minor adjustment in the interest of the Owner not involving a change in contract price or time, the engineer may approve the drawing. The approval shall not relieve the Contractor from responsibility to adhere to the contract or for any error in the drawing.

13. Requests for Supplementary Information

It shall be the responsibility of the Contractor to make timely requests of the Owner for any additional information which should be furnished by the Owner under the terms of this Contract, and which is required in the planning and execution of the work. Such requests may be submitted from time to time as the need approaches, but each shall 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.

- 14. 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 furnish to the Owner 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.
- (c) Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.
- (d) 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.
- (e) The Owner may require the Contractor to dismiss from the work such employee or employees as the Owner or the Engineer may deem unqualified.

15. 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 and/or certified statements.
- (c) Approval of any materials shall be general only and shall not constitute a waiver of the Owner'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 Owner will pay all other expenses.

16. Permits and Codes

- (a) The Contractor shall give all notices required by and comply with all applicable federal and state 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 Owner. Where the requirements of the drawings and technical specifications fail to comply with such applicable ordinances or codes, the Owner will adjust the Contract by Change Order to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department) and make appropriate adjustment in the Contract Price or stipulated unit prices.
- (b) 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 compliance with the drawings and technical specifications), the Contractor shall remove such work without cost to the Owner.
- (c) 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.
- (d) 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.
- (e) The Contractor will be required to make arrangements for and pay the water, electrical power, or any other utilities required during construction.
- (f) During construction of this project, the Contractor shall use every means possible to control the amount of dust created by construction. Prior to the close of a day's work, the Contractor, if directed by the Owner, shall moisten the surrounding area to prevent a dusty condition.

17. Care of Work

- (a) The Contractor shall be responsible for all damages to person or property that occur as a result of its 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 Owner is authorized to act to prevent such threatened loss or injury. Contractor shall follow all instructions of the Owner.
- (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 shall be responsible for completely repairing any damage thereto caused by the 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 Owner 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 Owner may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

18. 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 Department 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 Owner with reports concerning these matters.
- (d) The Contractor shall indemnify and hold harmless the Owner 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 safety for all excavations more than five feet deep prior to excavation. All OSHA Standards for trench safety must be adhered to by the Contractor.

(f) The contractor shall at all times conduct work in such a manner as to ensure the least possible inconvenience to vehicular and pedestrian traffic. At the close of the work each day, all streets where possible in the opinion of the Owner, shall be opened to the public in order that persons living in the area may have access to their homes or businesses by the use of the streets. Barricades, warning signs, and necessary lighting shall be provided to the satisfaction of the Owner at the expense of the Contractor.

19. Sanitary Facilities

The Contractor shall furnish, install and maintain ample sanitary facilities for laborers. 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.

20. Use of Premises

- (a) The Contractor shall confine 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 Owner, and shall not unreasonably encumber the site or public rights of way with materials and construction equipment.
- (b) The Contractor shall comply with all reasonable instructions of the Owner and all existing federal, state and local regulations regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.

21. 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.

22. Inspection

- (a) All materials and workmanship shall be subject to inspection, examination, or test by the Owner and Engineer at any and all times during manufacture or construction and at any and all places where such manufacture or construction occurs. The Owner 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 Owner 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 Owner.
- (b) The Contractor shall furnish promptly all materials reasonably necessary for any tests which may be required. All tests by the Owner 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 Owner 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 Owner, the Contractor shall uncover for inspection and recover such facilities at Contractor's expense, when so requested by the Owner.
- (d) Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed, 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 essential respect, due to fault of the Contractor or 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 reimbursable and if completion of the work of the entire Contract has been delayed, a suitable extension of time will be approved.
- (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 to: (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 Owner or its agents shall relieve the Contractor or its sureties of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

23. Review by County

The Owner 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 Owner through its authorized representatives or agents.

24. Final Inspection

When the Improvements included in this Contract are substantially completed, the Contractor shall notify the Owner in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The Owner will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

25. Deduction for Uncorrected Work

If the Owner deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the owner and subject to settlement, in case of dispute, as herein provided.

26. Insurance

The Contractor shall not commence work under this contract until all required insurance under this paragraph has been secured and approved by the Owner.

- (a) Worker's Compensation Insurance: The Contractor shall procure and shall maintain during the life of this contract Worker's 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 Contractor's Worker's Compensation Insurance.
- (b) Contractor's Public Liability and Property Damage Insurance and Vehicle Liability 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: (_____).
- (c) Proof of Insurance: The Contractor shall furnish the Owner 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 Owner."

27. Warranty of Title

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 Contractor, to the Owner 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. 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.

28. 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 Owner 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 <u>12</u> months from the date of final acceptance of the work.

29. Job Offices

- (a) The Contractor and its subcontractors may maintain such office and storage facilities on the site as are necessary for the proper conduct of the work. These shall be located so as to cause no interference to any work to be performed on the site. The Owner shall be consulted with regard to locations.
- (b) Upon completion of the improvements, or as directed by the Owner, the Contractor 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.

30. Partial Use of Site Improvements

The Owner may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected and can be accepted as complying with the technical specifications and if in its opinion, each such section is reasonably safe, fit, and convenient for the use and accommodation for which it was intended, provided:

- (a) The use of such sections of the Improvements shall in no way impede the completion of the remainder of the work by the Contractor.
- (b) The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

31. Contract Documents and Drawings

The Owner will furnish the Contractor without charge <u>2</u> copies of the Contract Documents, including Technical Specifications and Drawings. Additional copies requested by the Contractor will be furnished at cost.

32. Contract Period

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

33. Liquidated Damages

Since the actual damages for any delay in completion of the work under this contract are impossible to determine, the Contractor and his Sureties shall be liable for and shall pay to the Owner the sum of **Five Hundred and No One-Hundredths** Dollars (**<u>500.00</u>**) as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated time for completion.

ADMINISTRATIVE REQUIREMENTS

34. Local Program Liaison

For purposes of this Agreement, the <u>County Judge</u> or equivalent authorized person will serve as the Local Program Liaison and primary point of contact for the Contractor. All required progress reports and communication regarding the project shall be directed to this liaison and other local personnel as appropriate.

35. Access to Information

(a) The U.S. Department of Housing and Urban Development (HUD), Inspectors General, the Comptroller General of the United States, the General Land Office (GLO), and the Owner, or any of their authorized representatives, shall have access to any documents, papers, or other records of the Contractor which are pertinent to the CDBG-DR award, in order to make audits, examinations, excerpts, and transcripts, and to closeout the Owner's CDBG-DR contract with GLO. **2 CFR 200.336 (former 24 CFR 85.36(i)(10)) The Office of the Comptroller General of the United States, the Government Accountability Office, the Office of Inspector General, or any authorized representative of the U.S. Government shall also have this right of inspection.**

(b) Contractor shall include the substance of this clause in all subcontracts it awards.

36. <u>Records Retention</u>

- (a) The Contractor shall retain all required records for three years after the Owner makes its final payment and all pending matters are closed. 2 CFR 200.333 (former 24 CFR (85.36(i)(11))
- (b) Contractor shall include the substance of this clause in all subcontracts it awards.

FEDERAL REQUIRMENTS

37. Resolution of Program Non-Compliance and Disallowed Costs

In the event of any dispute, claim, question, or disagreement arising from or relating to this Contract, or the breach thereof, including determination of responsibility for any costs disallowed as a result of non-compliance with federal, state or CDBG-DR program requirements, the parties hereto shall use their best efforts to settle the dispute, claim, question or disagreement. To this effect, the parties shall consult and negotiate with each other in good faith within 30 days of receipt of a written notice of the dispute or invitation to negotiate, and attempt to reach a just and equitable solution satisfactory to both parties. If the matter is not resolved by negotiation within 30 days of receipt of written notice or invitation to negotiate, the parties agree first to try in good faith to settle the matter by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration, litigation, or some other dispute resolution procedure. The parties may enter into a written amendment to this Contract and choose a mediator that is not affiliated with the American Arbitration Association. The parties shall bear the costs of such mediation equally. If the matter is not resolved through such mediation within 60 days of the initiation of that procedure, either party may proceed to file suit.

38. 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), 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 Owner 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 Owner must report all suspected or reported violations to GLO.

39. Conflicts of Interest

- (a) <u>Governing Body</u>. No member of the governing body of the Owner and no other officer, employee, or agent of the Owner, who exercises any functions or responsibilities in connection with administration, construction, engineering, or implementation of CDBG-DR award between GLO and the Owner, 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) <u>Other Local Public Officials</u>. 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 CDBG-DR award between GLO and the Owner, 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.
- (c) The Contractor and Employees. The Contractor warrants and represents that it has no conflict of interest associated with the CDBG-DR award between GLO and the Owner 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 CDBG-DR award between GLO and the Owner or in any 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.

40. 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 supended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

A contract award (see 2 CFR 180.220) must not be made to parties listed on the government-wide Excluded Parties List System in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1986 Comp., p. 189) and 12689 (3 CFR Part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions 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. 2 CFR 200 APPENDIX II (H)

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

Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award of \$100,000 or more must 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 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.

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. 2 CFR 200 APPENDIX II (I) and 24 CFR §570.303

42. [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. 2 CFR 200 APPENDIX II (E)

43. Equal Opportunity Clause

Comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a)Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§16811683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C.§794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of

1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other non-discrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply.

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 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. 41 CFR §60-1.4(b) And 2 CFR 200 APPENDIX II (C)

44. 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.

45. Davis-Bacon Act, as amended (40 U.S.C. 3141-3148).

When required by Federal program legislation, 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 (29 CFR 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. 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 (29 CFR 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 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 the Federal awarding agency. 2 CFR 200 APPENDIX II (D)

46. Contract Work Hours and Safety Standards Act (40 U.S.C. 3701–3708).

Where applicable, 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 (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, 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. 2 CFR 200 APPENDIX II (E)

47. 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.

48. 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.

49. 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.

50. The Provision of Local Training, Employment, and Business Opportunities

(a) To the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the project. See also GLO Section 3 Policy and "Exhibit G" on the GLO-DR website.

(b) The Contractor will include this clause in every subcontract for work in connection with the project.

- 51. [If this Contract is greater than \$100,000] 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 135, 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 135 regulations.
- (c) The Contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- (d) The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, 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 135. 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 135.
- (e) 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 135 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 135.
- (f) Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this Contract for default, and debarment or suspension from future HUD assisted contracts.
- (g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this Contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b). 24 CFR §135.38

52. 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.

53. Patent Rights and Inventions

Contractor shall comply with the requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract. (2 CFR 200 Appendix II (f) and Rights to Inventions in 37 CFR Part 401).

Rights to Inventions Made Under a Contract or Agreement - If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the Subrecipient 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 Subrecipient must comply with the requirements of 37 CFR 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 the awarding agency.

54. Energy Efficiency

The Contractor shall comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201). (2 CFR 200 Appendix II (h)).

55. System for Award Management (SAM)

All contractors and subcontractors must be searched AND cleared (not suspended or debarred) prior to authorization to work on the project.

56. <u>Solid Waste Disposal Act</u>

Contractor 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.

57. Procurement of Recovered Materials

(a) 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—

1. Competitively within a timeframe providing for compliance with the contract performance schedule;

2. Meeting contract performance requirements; or

3. At a reasonable price.

(b) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, <u>https://www.epa.gov/</u>

STATE REQUIREMENTS

58. Verification No Boycott Israel.

As required by Chapter 2270, Government Code, CONTRACTOR hereby verifies that it does not boycott Israel and will not boycott Israel through the term of this Agreement. For purposes of this verification, "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.

59. Foreign Terrorist Organizations.

Pursuant to Chapter 2252, Texas Government Code, [Company] represents and certifies that, at the time of execution of this Agreement neither [Company], nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the same (i) engages in business with Iran, Sudan, or any foreign terrorist organization as described in Chapters 806 or 807 of the Texas Government Code, or Subchapter F of Chapter 2252 of the Texas Government Code, or (ii) is a company listed by the Texas Comptroller of Public Accounts under Sections 806.051, 807.051, or 2252.153 of the Texas Government Code. The term "foreign terrorist organization" in this paragraph has the meaning assigned to such term in Section 2252.151 of the Texas Government Code.

ENVIRONMENTAL CONDITIONS

60. [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). 2 CFR 200 APPENDIX II (G)

61. Lead-Based Paint

The Subrecipient agrees that any construction or rehabilitation of residential structures with assistance provided under this Agreement shall be subject to HUD Lead-Based Paint Regulations at 24 CFR 570.608, and 24 CFR Part 35, Subpart B. Such regulations pertain to all CDBG-assisted housing and require that all owners, prospective owners, and tenants of properties constructed prior to 1978 be properly notified that such properties may include lead-based paint. Such notification shall point out the hazards of lead-based paint and explain the symptoms, treatment and precautions that should be taken when dealing with lead-based paint poisoning and the advisability and availability of blood lead level screening for children under seven. The notice should also point out that if lead-based paint is found on the property, abatement measures may be undertaken. The regulations further require that, depending on the amount of Federal funds applied to a property, paint testing, risk assessment, treatment and/or abatement may be conducted.

62. Flood Disaster Protection

In accordance with the requirements of the Flood Disaster Protection Act of 1973 (42 U.S.C. 4001), the Subrecipient shall assure that for activities located in an area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards, flood insurance under the National Flood Insurance Program is obtained and maintained as a condition of financial assistance for acquisition or construction purposes (including rehabilitation).

63. Other Conditions

Any special conditions such as mitigation measures will be carried out as instructed by the Environmental Review Record below.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measures and Conditions		
Section 7 of the Endangered Species Act, Endangered Species	If construction workers identify or encounter threatened or endangered species during construction, they should cease construction immediately and contact Texas Parks & Wildlife for guidance.		
	Consider avoiding clearing vegetation during general bird nesting season (between March and August), provide state listed and rate species to construction workers to ensure consistency with requirements to prevent impact to and/or avoid federally or state listed, threatened, endangered, or special status species; use best management practices including silt fencing and berming to prevent stormwater runoff.		
Section 106 of the National Historic	Above-Ground Resources: If historic properties are		
Preservation Act, Historic Preservation	discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. The THC's History Programs Division will be contacted at 512-463-5853 to consult on further actions that may be necessary to protect historic properties. The GLO will also be contacted.		
	Archeology: If cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. The THC's Archeology Division will be contacted at 512-463-6096 to consult on further actions that may be necessary to protect cultural remains.		
	The THC and GLO will be consulted if any change is made to the scope of the project.		
Executive Order 11988, particularly section 2(a); 24 CFR Part 55	The project shall implement methods designed to protect improvements from flood damage and to protect natural landscapes that serve to maintain or restore natural bydrology through infiltration. Note that the proposed		
	project activities are designed to improve flood drainage		

	and reduce the likelihood of inundation. The consulting
	engineer shall take into consideration additional
	specifications to minimize damage to, and/or restore, the
	native plant species. The project shall not lead to any
	significant increases in impermeable cover and shall have
	no negative impacts on the floodplain. Additionally, prior
1	to construction, the project plans will meet any
	applicable local floodplain requirements set forth by the
	community's Floodplain Administrator.

Law, Authority, or Factor	Best Management Practices
Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	During project construction, there will be some increase in ambient dust particulate from machinery and soil disturbances. These will be only temporary in nature and all efforts will be made through proper construction methods to ensure dust control and properly functioning equipment.

MINORITY/FEMALE GOALS AND TIMETABLES

The female employment goal is effective as of April 1980 and is currently 6.9%. The percentages for mino participation in Texas are: Texarkana Area :	ority
Texarkana & Bowie Co	197
Non-MSA Counties of Camp. Cass. Lamar. Morris. Red River & Titus	20.2
	20.2
I vier-Longview Area:	00.0
Longview, Gregg Co. & Harrison Co.	22.8
Tyler & Smith Co.	23.5
Rusk, San Augustine, Shelby, Upshur & Wood	22.5
Beaumont-Port Arthur Area:	
Beaumont, Port Arthur, Orange, Hardin Co., Jefferson Co., & Orange Co.	22.6
Non-MSA Counties of Jasper, Houston, Newton, Sabine, & Tyler	22.6
Houston Area:	00.7
Bryan, College Station & Brazos Co.	23.7
Galveston, Texas City & Galveston Co.	28.9
Non MSA Counting of Austin Burleson, Collegue, Chemberg, Coloredo, DoWitt, Foyette, Collind	27.3
Grimes, Jackson, Lavaca, Leon, Madison, Matagorda, Polk, Robertson, San Jacinto, Trinity, Victoria, Walker, Washington, & Wharton	27.4
Austin Area:	
Austin, Hays Co., I ravis Co., & Williamson Co.	24.1
Non-MSA Counties of Bastrop, Blanco, Burnet, Caldwell, Lee & Llano	24.2
<u>Waco, Killeen, Temple Area:</u>	
Killeen, Temple, Bell Co. & Coryell Co.	16.4
Waco & McLennan Co.	20.7
Non-MSA Counties of Bosque, Falls, Freestone, Hamilton, Hill, Lampasas, Limestone, Milam & Mills	18.6
Dallas, Fort Worth Area:	40.0
Dallas, Fort Worth, Collin Co., Dallas Co., Denton Co., Ellis Co., Hood Co., Johnson Co., Kaufman Co., Parker Co., Rockwall Co., Tarrant Co. & Wise Co.	18.2
Sherman, Denison & Grayson Co.	9.4
Non-MSA Counties of Cooke, Delta, Erath, Fannin, Franklin, Hopkins, Hunt, Jack, Montague, Navarro, Palo Pinto, Rains, Somervell, & Van Zandt	17.2
Wichita Falls Area:	
Wichita Falls, Clay Co. & Wichita Co.	12.4
Non-MSA Counties of Archer, Baylor, Cottle, Foard, Hardeman, Wilbarger & Young	11.0
Abilene Area:	
Abilene, Callaghan Co., Jones Co. & Taylor Co.	11.6
Non-MSA Counties of Brown, Coleman, Comanche, Eastland, Fisher, Haskell, Kent, Knox, Mitchell, Nolan, Scurry, Shackleford, Stephens, Stonewall & Throckmorton	10.9
San Angelo Area:	
San Angelo & Tom Green Co	19 2
Non-MSA Counties of Coke, Concho, Crockett, Irion, Kimble, McCullough, Mason, Menard, Reagan	20.0
Runnels, San Saba, Schleicher, Sterling, Sutton & Terrell	_0.0

HUD-4010 Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development Office of Davis-Bacon and Labor Standards

A. APPLICABILITY

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

(1) MINIMUM WAGES

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment, computed at rates not less than those contained in the wage determination of the Secretary of Labor (which is attached hereto and made a part hereof), regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH1321)) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place, where it can be easily seen by the workers.

(ii) Additional Classifications.

- (A) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:
 - The work to be performed by the classification requested is not performed by a classification in the wage determination;
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (B) If the contractor, the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division ("Administrator"), Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget ("OMB") under OMB control number 1235-0023.)
- (C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, or HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1235-0023.)

Previous editions are obsolete.

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- (D) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (1)(ii)(B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.
- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1235-0023.)
- (2) Withholding. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the U.S. Department of Labor, withhold or cause to be withhold from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The U.S. Department of Labor shall make such disbursements in the case of direct Davis-Bacon Act contracts.

(3) Payrolls and basic records.

(i) Maintaining Payroll Records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification(s), hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid.

Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1235-0023 and 1215-0018)

(ii) Certified Payroll Reports.

(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead, the payrolls only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at https://www.dol.gov/agencies/whd/forms or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

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Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the U.S. Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1235-0008.)

- (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;
 - (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract; and
- (C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (a)(3)(ii)(b).
- (D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under subparagraph (a)(3)(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the U.S. Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency (where appropriate), to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program.

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If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed, unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.
- (5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this Contract.
- (6) Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs (1) through (11) in this paragraph (a) and such other clauses as HUD or its designee may, by appropriate instructions, require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.
- (7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- (8) Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this Contract.
- (9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of Eligibility.

(i) By entering into this Contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

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- (ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.
- (iii) Anyone who knowingly makes, presents, or submits a false, fictitious, or fraudulent statement, representation or certification is subject to criminal, civil and/or administrative sanctions, including fines, penalties, and imprisonment (e.g., 18 U.S.C. §§ 287, 1001, 1010, 1012; 31 U.S.C. §§ 3729, 3802.
- (11) Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic, to whom the wage, salary, or other labor standards provisions of this Contract are applicable, shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The provisions of this paragraph (b) are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work, which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 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 40 hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph B(1) of this paragraph, 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 subparagraph B(1) of this paragraph, in the sum set by the U.S. Department of Labor at 29 CFR 5.5(b)(2) for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph B(1) of this paragraph. In accordance with the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C. § 2461 Note), the DOL adjusts this civil monetary penalty for inflation no later than January 15 each year.
- (3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the U.S. Department of Labor, withhold or cause to be withheld from any moneys payable on account of work performed by the contractor or subcontractor under any such contract, or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages, as provided in the clause set forth in subparagraph B(2) of this paragraph.
- (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph B(1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs B(1) through (4) of this paragraph.

C. HEALTH AND SAFETY

- The provisions of this paragraph (c) are applicable where the amount of the prime contract exceeds \$100,000.
- (1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
- (2) The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
- (3) The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Previous editions are obsolete.

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Title 29: Labor

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

Contents

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- §3.7 Applications for the approval of the Secretary of Labor.
- §3.8 Action by the Secretary of Labor upon applications.
- §3.9 Prohibited payroll deductions.
- §3.10 Methods of payment of wages.
- §3.11 Regulations part of contract.

AUTHORITY: R.S. 161, sec. 2, 48 Stat. 848; Reorg. Plan No. 14 of 1950, 64 Stat. 1267; 5 U.S.C. 301; 40 U.S.C. 3145; Secretary's Order 01-2008; and Employment Standards Order No. 2001-01.

SOURCE: 29 FR 97, Jan. 4, 1964, unless otherwise noted.

§3.1 Purpose and scope.

This part prescribes "anti-kickback" regulations under section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c), popularly known as the Copeland Act. This part applies to any contract which is subject to Federal wage standards and which is for the construction, prosecution, completion, or repair of public buildings, public works or buildings or works financed in whole or in part by loans or grants from the United States. The part is intended to aid in the enforcement of the minimum wage provisions of the Davis-Bacon Act and the various statutes dealing with federally assisted construction that contain similar minimum wage provisions, including those provisions which are not subject to Reorganization Plan No. 14 (e.g., the College Housing Act of 1950, the Federal Water Pollution Control Act, and the Housing Act of 1959), and in the enforcement of the overtime provisions of the Contract Work Hours Standards Act whenever they are applicable to construction work. The part details the obligation of contractors and subcontractors relative to the weekly submission of statements regarding the wages paid on work covered thereby; sets forth the circumstances and procedures governing the making of payroll deductions from the wages of those employed on such work; and delineates the methods of payment permissible on such work.

§3.2 Definitions.

As used in the regulations in this part:

(a) The terms *building* or *work* generally include construction activity as distinguished from manufacturing, furnishing of materials, or servicing and maintenance work. The terms include, without limitation, buildings, structures, and improvements of all types, such as bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mains, powerlines, pumping stations, railways, airports, terminals, docks, piers, wharves, ways, lighthouses, buoys, jetties, breakwaters, levees, and canals; dredging, shoring, scaffolding, drilling, blasting, excavating, clearing, and landscaping. Unless conducted in connection with and at the site of such a building or work as is described in the foregoing sentence, the manufacture or furnishing of materials, articles, supplies, or equipment (whether or not a Federal or State agency acquires title to such materials, articles, supplies, or equipment during the course of the manufacture or furnishing, or

owns the materials from which they are manufactured or furnished) is not a *building* or *work* within the meaning of the regulations in this part.

(b) The terms *construction, prosecution, completion,* or *repair* mean all types of work done on a particular building or work at the site thereof, including, without limitation, altering, remodeling, painting and decorating, the transporting of materials and supplies to or from the building or work by the employees of the construction contractor or construction subcontractor, and the manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the building or work, by persons employed at the site by the contractor or subcontractor.

(c) The terms *public building* or *public work* include building or work for whose construction, prosecution, completion, or repair, as defined above, a Federal agency is a contracting party, regardless of whether title thereof is in a Federal agency.

(d) The term *building or work financed in whole or in part by loans or grants from the United States* includes building or work for whose construction, prosecution, completion, or repair, as defined above, payment or part payment is made directly or indirectly from funds provided by loans or grants by a Federal agency. The term includes building or work for which the Federal assistance granted is in the form of loan guarantees or insurance.

(e) Every person paid by a contractor or subcontractor in any manner for his labor in the construction, prosecution, completion, or repair of a public building or public work or building or work financed in whole or in part by loans or grants from the United States is *employed* and receiving *wages*, regardless of any contractual relationship alleged to exist between him and the real employer.

(f) The term *any affiliated person* includes a spouse, child, parent, or other close relative of the contractor or subcontractor; a partner or officer of the contractor or subcontractor; a corporation closely connected with the contractor or subcontractor as parent, subsidiary, or otherwise, and an officer or agent of such corporation.

(g) The term *Federal agency* means the United States, the District of Columbia, and all executive departments, independent establishments, administrative agencies, and instrumentalities of the United States and of the District of Columbia, including corporations, all or substantially all of the stock of which is beneficially owned by the United States, by the District of Columbia, or any of the foregoing departments, establishments, agencies, and instrumentalities.

[29 FR 97, Jan. 4, 1964, as amended at 38 FR 32575, Nov. 27, 1973]

§3.3 Weekly statement with respect to payment of wages.

(a) As used in this section, the term *employee* shall not apply to persons in classifications higher than that of laborer or mechanic and those who are the immediate supervisors of such employees.

(b) Each contractor or subcontractor engaged in the construction, prosecution, completion, or repair of any public building or public work, or building or work financed in whole or in part by loans or grants from the United States, shall furnish each week a statement with respect to the wages paid each of its employees engaged on work covered by this part 3 and part 5 of this title during the preceding weekly payroll period. This statement shall be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, and shall be on the back of Form WH 347, "Payroll (For Contractors Optional Use)" or on any form with identical wording. Copies of Form WH 347 may be obtained from the Government contracting or sponsoring agency or from the Wage and Hour Division Web site at *http://www.dol.gov/esa/whd/forms/wh347instr.htm* or its successor site.

(c) The requirements of this section shall not apply to any contract of \$2,000 or less.

(d) Upon a written finding by the head of a Federal agency, the Secretary of Labor may provide reasonable limitations, variations, tolerances, and exemptions from the requirements of this section subject to such conditions as the Secretary of Labor may specify.

[29 FR 97, Jan. 4, 1964, as amended at 33 FR 10186, July 17, 1968; 47 FR 23679, May 28, 1982; 73 FR 77511, Dec. 19, 2008]

§3.4 Submission of weekly statements and the preservation and inspection of weekly payroll records.

(a) Each weekly statement required under §3.3 shall be delivered by the contractor or subcontractor, within seven days after the regular payment date of the payroll period, to a representative of a Federal or State agency in charge at the site of the building or work, or, if there is no representative of a Federal or State agency at the site of the building or work, the statement shall be mailed by the contractor or subcontractor, within such time, to a Federal or State agency contracting for or financing the building or work. After such examination and check as may be made, such statement, or a copy thereof, shall be kept available, or shall be transmitted together with a report of any violation, in accordance with applicable procedures prescribed by the United States Department of Labor.

(b) Each contractor or subcontractor shall preserve his weekly payroll records for a period of three years from date of completion of the contract. The payroll records shall set out accurately and completely the name and address of each laborer and mechanic, his correct classification, rate of pay, daily and weekly number of hours worked, deductions made, and actual wages paid. Such payroll records shall be made available at all times for inspection by the contracting officer or his authorized representative, and by authorized representatives of the Department of Labor.

(Reporting and recordkeeping requirements in paragraph (b) have been approved by the Office of Management and Budget under control number 1215-0017)

[29 FR 97, Jan. 4, 1964, as amended at 47 FR 145, Jan. 5, 1982]

§3.5 Payroll deductions permissible without application to or approval of the Secretary of Labor.

Deductions made under the circumstances or in the situations described in the paragraphs of this section may be made without application to and approval of the Secretary of Labor:

(a) Any deduction made in compliance with the requirements of Federal, State, or local law, such as Federal or State withholding income taxes and Federal social security taxes.

(b) Any deduction of sums previously paid to the employee as a bona fide prepayment of wages when such prepayment is made without discount or interest. A *bona fide prepayment of wages* is considered to have been made only when cash or its equivalent has been advanced to the person employed in such manner as to give him complete freedom of disposition of the advanced funds.

(c) Any deduction of amounts required by court process to be paid to another, unless the deduction is in favor of the contractor, subcontractor, or any affiliated person, or when collusion or collaboration exists.

(d) Any deduction constituting a contribution on behalf of the person employed to funds established by the employer or representatives of employees, or both, for the purpose of providing either from principal or income, or both, medical or hospital care, pensions or annuities on retirement, death benefits, compensation for injuries, illness, accidents, sickness, or disability, or for insurance to provide any of the foregoing, or unemployment benefits, vacation pay, savings accounts, or similar payments for the benefit of employees, their families and dependents: *Provided, however,* That the following standards are met:

⁽¹⁾ The deduction is not otherwise prohibited by law;

(2) It is either:

(i) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of or for the continuation of employment, or

(ii) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees;

(3) No profit or other benefit is otherwise obtained, directly or indirectly, by the contractor or subcontractor or any affiliated person in the form of commission, dividend, or otherwise; and

(4) The deductions shall serve the convenience and interest of the employee.

(e) Any deduction contributing toward the purchase of United States Defense Stamps and Bonds when voluntarily authorized by the employee.

(f) Any deduction requested by the employee to enable him to repay loans to or to purchase shares in credit unions organized and operated in accordance with Federal and State credit union statutes.

(g) Any deduction voluntarily authorized by the employee for the making of contributions to governmental or quasi-governmental agencies, such as the American Red Cross.

(h) Any deduction voluntarily authorized by the employee for the making of contributions to Community Chests, United Givers Funds, and similar charitable organizations.

(i) Any deductions to pay regular union initiation fees and membership dues, not including fines or special assessments: *Provided, however,* that a collective bargaining agreement between the contractor or subcontractor and representatives of its employees provides for such deductions and the deductions are not otherwise prohibited by law.

(j) Any deduction not more than for the "reasonable cost" of board, lodging, or other facilities meeting the requirements of section 3(m) of the Fair Labor Standards Act of 1938, as amended, and part 531 of this title. When such a deduction is made the additional records required under §516.25(a) of this title shall be kept.

(k) Any deduction for the cost of safety equipment of nominal value purchased by the employee as his own property for his personal protection in his work, such as safety shoes, safety glasses, safety gloves, and hard hats, if such equipment is not required by law to be furnished by the employer, if such deduction is not violative of the Fair Labor Standards Act or prohibited by other law, if the cost on which the deduction is based does not exceed the actual cost to the employer where the equipment is purchased from him and does not include any direct or indirect monetary return to the employer where the equipment is purchased from a third person, and if the deduction is either

(1) Voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance; or

(2) Provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees.

[29 FR 97, Jan. 4, 1964, as amended at 36 FR 9770, May 28, 1971]

§3.6 Payroll deductions permissible with the approval of the Secretary of Labor.

Any contractor or subcontractor may apply to the Secretary of Labor for permission to make any deduction not permitted under §3.5. The Secretary may grant permission whenever he finds that:

(a) The contractor, subcontractor, or any affiliated person does not make a profit or benefit directly or indirectly from the deduction either in the form of a commission, dividend, or otherwise;

(b) The deduction is not otherwise prohibited by law;

(c) The deduction is either (1) voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of employment or its continuance, or (2) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; and

(d) The deduction serves the convenience and interest of the employee.

§3.7 Applications for the approval of the Secretary of Labor.

Any application for the making of payroll deductions under §3.6 shall comply with the requirements prescribed in the following paragraphs of this section:

(a) The application shall be in writing and shall be addressed to the Secretary of Labor.

(b) The application need not identify the contract or contracts under which the work in question is to be performed. Permission will be given for deductions on all current and future contracts of the applicant for a period of 1 year. A renewal of permission to make such payroll deduction will be granted upon the submission of an application which makes reference to the original application, recites the date of the Secretary of Labor's approval of such deductions, states affirmatively that there is continued compliance with the standards set forth in the provisions of §3.6, and specifies any conditions which have changed in regard to the payroll deductions.

(c) The application shall state affirmatively that there is compliance with the standards set forth in the provisions of §3.6. The affirmation shall be accompanied by a full statement of the facts indicating such compliance.

(d) The application shall include a description of the proposed deduction, the purpose to be served thereby, and the classes of laborers or mechanics from whose wages the proposed deduction would be made.

(e) The application shall state the name and business of any third person to whom any funds obtained from the proposed deductions are to be transmitted and the affiliation of such person, if any, with the applicant.

[29 FR 97, Jan. 4, 1964, as amended at 36 FR 9771, May 28, 1971]

§3.8 Action by the Secretary of Labor upon applications.

The Secretary of Labor shall decide whether or not the requested deduction is permissible under provisions of §3.6; and shall notify the applicant in writing of his decision.

§3.9 Prohibited payroll deductions.

Deductions not elsewhere provided for by this part and which are not found to be permissible under §3.6 are prohibited.

§3.10 Methods of payment of wages.

The payment of wages shall be by cash, negotiable instruments payable on demand, or the additional forms of compensation for which deductions are permissible under this part. No other methods of payment shall be recognized on work subject to the Copeland Act.

§3.11 Regulations part of contract.

All contracts made with respect to the construction, prosecution, completion, or repair of any public building or public work or building or work financed in whole or in part by loans or grants from the United States covered by the regulations in this part shall expressly bind the contractor or subcontractor to comply with such of the regulations in this part as may be applicable. In this regard, see §5.5(a) of this subtitle.

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.
- 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
Interest are: ADDRESS NATURE OF INTEREST NAME ADDRESS NATURE OF INTEREST

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

Date

(Contractor)

Вy

"General Decision Number: TX20240088 01/05/2024

Superseded General Decision Number: TX20230088

State: Texas

Construction Type: Heavy

Counties: Bee, Colorado, Fayette, Gonzales, Jackson, Jim Wells, Karnes, Kleberg, Lavaca, Live Oak, Refugio and Wharton Counties in Texas.

HEAVY CONSTRUCTION PROJECTS (Including Water and Sewer Lines; does not include Flood Control)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	 Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<pre>contract in 2024 Executive Order 13658 generally applies to the contract The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.</pre>

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

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts. Modification Number Publication Date 0 01/05/2024

SUTX2009-125 04/21/2009

		Rates	Fringes
CEMENT MAS	ON/CONCRETE FINISHER\$	13.00 **	0.00
LABORER:	Common or General\$	9.11 **	0.00
LABORER:	Pipelayer\$	13.75 **	0.00
OPERATOR:	Backhoe/Trackhoe\$	13.25 **	0.00
OPERATOR :	Bulldozer\$	14.25 **	0.00
OPERATOR:	Loader (Front End)\$	11.13 **	0.00
TRUCK DRIV	'ER\$	10.49 **	0.24

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

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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

https://www.dol.gov/agencies/whd/government-contracts.

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

The body of each wage determination lists the classification

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

* an existing published wage determination

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

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

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

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

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

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

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

All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION"

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GLO SIGNAGE REQUIREMENTS

All signs shall be placed in a prominent, visible public location at the construction site, and legible from at least three (3) feet distance.

Permanent signage is required on any public building or facility funded under this Contract. Please refer to the plans and specifications for further details.

For other construction projects (e.g., water transmission lines, sewer collection lines, drainage, roadways, housing rehabilitation) funded under this Contract, temporary signage shall be placed in a prominent location at the construction project site or along a major thoroughfare within the locality.

All signage required shall contain the following:

"This project is funded by the Texas General Land Office of the State of Texas, to provide for disaster recovery and restoration of infrastructure for communities impacted by the Hurricane Harvey. Funds allocated by the United States Department of Housing and Urban Development through the Community Development Block Grant Program."

Please include this requirement in your specifications and bid documents

SECTION 504 CERTIFICATION

POLICY OF NONDISCRIMINATION ON THE BASIS OF DISABILITY

The ______ does not discriminate on the basis of disability status in the admission or access to, or treatment or employment in, its federally assisted programs or activities.

(Name)					
(Address)					_
	City		State	Zip	_
Telephone Nu	ımber	(())		_ Voice _ TDD

has been designated to coordinate compliance with the nondiscrimination requirements contained in the Department of Housing and Urban Development's (HUD) regulations implementing Section 504 (24 CFR Part 8. dated June 2, 1988).

CHILD SUPPORT STATEMENT FOR NEGOTIATED CONTRACTS AND GRANTS

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is eligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

Section 231.006, Family Code, specifies that a child support obligor who is more than 30 days delinquent in paying child support and a business entity in which the obligor is a sole proprietor, partner, shareholder, or owner with an ownership interest of at least 25% is not eligible to receive payments from state funds under a contract to provide property, materials, or services; or receive a state-funded grant or loan.

List below the name and ID number of the individual or sole proprietor and each partner, shareholder, or owner with an ownership interest of at least 25% of the business entity submitting the bid or application.

NAME	ID NUMBER

A child support obligor or business entity ineligible to receive payments described above remains ineligible until all arrearage have been paid or the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency.

The undersigned proposer certifies that he or she, is the proposing individual, or the sole proprietor of the proposing business, and is eligible under Section 231.006 of the Texas Family Code, to receive the payments of State funds which may be disbursed in connection with a contract arising from this solicitation, The undersigned each further acknowledges that a contract resulting from this solicitation may be terminated and payment may be withheld if the certification provided herein is found to be inaccurate.

Signature – Company Official	Printed/Type Firm Name
Printed/Typed Name and Title	Date

ADDITIONAL CONDITION OF AWARD -

DISCLOSURE OF INTERESTED PARTY FORM: NEW OBLIGATION OF THE CITY/COUNTY TO RECEIVE INFORMATION FROM WINNING BIDDER

Effective January 1, 2016, pursuant to Texas Government Code, Section 2252.908 (the "Interested Party Disclosure Act"), the City/County may not award a contract to a bidder unless the bidder submits a Certificate of Interested Parties Form 1295 (the "Disclosure Form") to the City/County as prescribed by the Texas Ethics Commission ("TEC"). In the event that the bidder's bid for the City/County is the best bid received, the City/County or its consultant, will promptly notify the bidder. That notification will serve as the conditional verbal acceptance of the bid. Upon this acceptance, the winning bidder must promptly, not later than TIME (CST) on the DATE, file the materials described below.

PROCESS FOR COMPLETING THE DISCLOSURE FORM¹

The Disclosure Form can be found at <u>https://www.ethics.state.tx.us/forms/1295.pdf</u>, and reference should be made to the following information in order to complete it: (a) item 2 – Name of City/County ("City/County, Texas")

(b) item 3 – the identification number ("CDBG-DR City/County"), and

(c) item 3 – description of the goods or services assigned to this contract by the City ("Construction Services for City/County)

You must:

- 1) complete the Disclosure Form electronically at the TEC's "electronic portal", and
- print, sign and deliver a copy (scanned and emailed is fine) of the Disclosure Form and Certification of Filing that is generated by the TEC's "electronic portal."

The following link will take you to the electronic portal for filing: https://www.ethics.state.tx.us/TECCertInt/pages/login/certLogin.jsf

Also, a detailed instruction video may be found here: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

Neither the City/County nor its consultants have the ability to verify the information included in a Disclosure Form, and neither have an obligation nor undertake responsibility for advising any business entity with respect to the proper completion of the Disclosure Form.

- a sponsored research contract of an institution of higher education;
- an interagency contract of a state agency or an institution of higher education;
- a contract related to health and human services if:
 - the value of the contract cannot be determined at the time the contract is executed; and
 - any qualified vendor is eligible for the contract;
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity;
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code; or
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code.

¹ A completed Form 1295 is not required for:

CERTIFICATE OF INTE	RESTED PARTIES		FO	RM 1295
Complete Nos. 1 - 4 and 6 if the Complete Nos. 1, 2, 3, 5, and 6	ere are interested parties. if there are no interested part	ies.	OFFICE	JSE ONLY
1 Name of business entity filing form, a entity's place of business.	and the city, state and country of	the business		File
2 Name of governmental entity or stat which the form is being filed.	e agency that is a party to the co	ntract for	xt.	` `
3 Provide the identification number us and provide a description of the serventiation of t	ed by the governmental entity or rices, goods, or other property to	state agency to t be provided upd	rack of identify	y the contract,
4 Name of Interested Party	City, State, Country	Nature	e of Interest (ch	eck applicable)
Name of interested Fairy	(place of business)	Cont	trolling	Intermediary
	jt i	P		
	N.			
	. Mr.			
	XN			
	\mathcal{O}			
'Ari	0			
5 Check only if there is the interest	ted Party.			
6 UNSWORN DECLARATION				
My name is	, and	my date of birth is		;
My address (street) (street) device under penalty of perjury that the for	egoing is true and correct.	city) (state	;,, (zip code)	(country)
Executed in County, H	State of, on the	day of(mon	, 20 th) (year))
	Signature of au	thorized agent of cor (Declarant)	ntracting business	entity
ADI	ADDITIONAL PAGES AS	NECESSARY		
orm provided by Texas Ethics Commission	www.ethics.state.tx.us			Revised 12/22/2017



Texas General Land Office

Community Development Block Grant (CDBG) Disaster Recovery Program

Code of Federal Regulations Title 24- Housing and Urban Development

Volume: 1 Date: 2003-04-01 Original Date: 2003-04-01 Title: Section 135.38- Section 3 Clause Context: Title 24- Housing and Urban Development. Subtitle B- Relating to Housing and Urban Development . Chapter 1- Office of Assistant Secretary for Equal Opportunity, Department. Part 135 Economic Opportunities for Low-and Very Low-Income Persons. Subpart B- Economic Opportunities for Section 3 Residents and Section 3 Business Concerns.

§ 135.38 Section 3 clause.

All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):

- A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development 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 135, 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 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, 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 135. 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 135.

- E. 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 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

Texas General Land Office



Community Development Block Grant (CDBG) Disaster Recovery Program

[Code of Federal Regulations] [Title 24, Volume 1] [Revised as of April 1, 2003] From the U.S. Government Printing Office via GPO Access [CITE: 24CFR135.92] [Page 704-707]

TITLE 24--HOUSING AND URBAN DEVELOPMENT CHAPTER I--OFFICE OF ASSISTANT SECRETARY FOR EQUAL OPPORTUNITY, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT PART 135--ECONOMIC OPPORTUNITIES FOR LOW- and VERY LOW-INCOME PERSONS

Table of Contents

Appendix to Part 135

I. EXAMPLES OF EFFORTS TO OFFER TRAINING AND EMPLOYMENT OPPORTUNITIES TO SECTION 3 RESIDENTS

- (1)Entering into ``first source" hiring agreements with organizations representing Section 3 residents.
- Sponsoring a HUD-certified ``Step-Up" employment and training program for (2)section 3 residents.
- (3) Establishing training programs, which are consistent with the requirements of the Department of Labor, for public and Indian housing residents and other section 3 residents in the building trades.
- Advertising the training and employment positions by distributing flyers (which (4) identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process) to every occupied dwelling unit in the housing development or developments where category 1 or category 2 persons (as these terms are defined in Sec. 135.34) reside.
- (5) Advertising the training and employment positions by posting flyers (which identify the positions to be filled, the qualifications required, and where to obtain additional information about the application process) in the common areas or other prominent areas of the housing development or developments. For HAs, post such advertising in the housing development or developments where category 1 or category 2 persons reside; for all other recipients, post such advertising in the housing development or developments and transitional housing in the neighborhood or service area of the section 3 covered project.
- Contacting resident councils, resident management corporations, or other resident (6) organizations, where they exist, in the housing development or developments where category 1 or category 2 persons reside, and community organizations in HUD assisted neighborhoods, to request the assistance of these organizations in notifying residents of the training and employment positions to be filled.

- (7) Sponsoring (scheduling, advertising, financing or providing in-kind services) a job informational meeting to be conducted by an HA or contractor representative or representatives at a location in the housing development or developments where category 1 or category 2 persons reside or in the neighborhood or service area of the section 3 covered project.
- (8) Arranging assistance in conducting job interviews and completing job applications for residents of the housing development or developments where category 1 or category 2 persons reside and in the neighborhood or service area in which a section 3 project is located.

[[Page 705]]

- (9) Arranging for a location in the housing development or developments where category 1 persons reside, or the neighborhood or service area of the project, where job applications may be delivered to and collected by a recipient or contractor representative or representatives.
- (10) Conducting job interviews at the housing development or developments where category 1 or category 2 persons reside, or at a location within the neighborhood or service area of the section 3 covered project.
- (11) Contacting agencies administering HUD Youthbuild programs, and requesting their assistance in recruiting HUD Youthbuild program participants for the HA's or contractor's training and employment positions.
- (12) Consulting with State and local agencies administering training programs funded through JTPA or JOBS, probation and parole agencies, unemployment compensation programs, community organizations and other officials or organizations to assist with recruiting Section 3 residents for the HA's or contractor's training and employment positions.
- (13) Advertising the jobs to be filled through the local media, such as community television networks, newspapers of general circulation, and radio advertising.
- (14) Employing a job coordinator, or contracting with a business concern that is licensed in the field of job placement (preferably one of the section 3 business concerns identified in part 135), that will undertake, on behalf of the HA, other recipient or contractor, the efforts to match eligible and qualified section 3 residents with the training and employment positions that the HA or contractor intends to fill.
- (15) For an HA, employing section 3 residents directly on either a permanent or a temporary basis to perform work generated by section 3 assistance. (This type of employment is referred to as ``force account labor'' in HUD's Indian housing regulations. See 24 CFR 905.102, and Sec. 905.201(a)(6).)
- (16) Where there are more qualified section 3 residents than there are positions to be filled, maintaining a file of eligible qualified section 3 residents for future employment positions.
- (17) Undertaking job counseling, education and related programs in association with local educational institutions.
- (18) Undertaking such continued job training efforts as may be necessary to ensure the continued employment of section 3 residents previously hired for employment opportunities.
- (19) After selection of bidders but prior to execution of contracts, incorporating into the contract a negotiated provision for a specific number of public housing or other section 3 residents to be trained or employed on the section 3 covered assistance.
- (20) Coordinating plans and implementation of economic development (e.g., job training and preparation, business development assistance for residents) with the planning for housing and community development.

CULTURE LATER

Texas General Land Office

Community Development Block Grant (CDBG) Disaster Recovery Program

NEW HIRES SECTION 3 MONTHLY COMPLIANCE REPORT

	Reporting Month:
Economic Opportunities for Low and Very Low-Income	Persons
This form is distributed to the General Contractor (GC) that they anticipate hiring for this project.	at the Pre-Construction Meeting. GC is also required to provide this form to any subcontractor firms
CONTRACTOR INFORMATION	
Name of Business:	
Address of Business:	
Authorized Representative for this contract:	
Authorized Signatory:	
ADDITIONALLY, PLEASE REVIEW AND CO	MPLY WITH STEPS 1 - 3 BELOW:
1. You must sign and date this form for the each	applicable reporting month in connection with awarded project and deliver to:
 When you hire a Section 3 resident in connect Coordinator identified above. Even if there we Coordinator identified above. 	ztion with this project, you must also complete this form and submit it to the Section 3 are no new hires this form must be completed and submitted to the Section 3
I have not hired any new employee	s during the reporting Month specified.

I have hired Section 3 employess and/or

non-Section 3 employees during the reporting month shown here.

The following is a list of the new hires and the trades:

	New Hire Name	Job Category/Trade	Full-time? Yes or No
1.			·
2.			•
3.			·
4.			·

I have taken one or more of the following recruitment steps to hire a Section 3 Resident with the highest training and employment priority ranking. **Provide a brief description of actions taken**:

I have taken steps to find a Section 3 Resident in the applicable targeted areas where the project(s)/assistance will take place. List areas:

Placed signs or posters at prominent places in each of the above listed areas. Photographs were taken to document this action.

I have advertised to fill vacancy(ies) at the site(s), where work is taking place, in connection with this project. List advertisements (name publication, e.g. Work in Texas, Houston Chronicle, and/or website(s):

Distributed employment flyers to the administrative office of the local Public Housing Authority.

Provided notice of positions available to the Texas Workforce Commission for potential applicants. Provide copy of notice.

Contacted employment referrals or Youthbuild Program referrals. List contacts:

Contacted with applicable parties to ensure that any HUD Youthbuild programs currently operating in the project(s) area/ assistance will take place.

Kept a log of all applicants and indicate the reasons why Section 3 Residents who applied were not hired.

Retained copies of any employment applications completed by public housing, Section 8 certificate or voucher holders or other Section 3 Residents.

Sent a notice about Section 3 training and employment requirements and opportunities to labor organizations or to worker representatives with whom our firm has a collective bargaining or other agreement.

3. Verification

I have attached proof of all checked items.

Authorized Name and Signature

Date/Time Field

Text

Attested By:

TEXL

CDBG-DR SECTION 3 BROCHURE INFO SHEET

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Section 3

Economic Opportunity A Piece of the American Dream

This project is federally funded and Section 3 compliance and reporting applies to all executed prime or sub contracts over \$100,000

What am I required to do as a contractor?

About Section 3

to the greatest extent feasible, be given to low and very low-income U.S.C. 1701u) (as amended), requires that economic opportunities these persons for housing, and to businesses that provide economic opportunities for persons, particularly those who are recipients of government assistance Public and Indian Housing) and community development programs shall generated by certain HUD financial assistance for housing (including Section 3 of the Housing and Urban Development Act of 1968 (12

> < < < <

Retain copies of any employment applications Keep a log of all applicants and indicate why Post any job vacancies at www.workintexas.com Submit monthly new hires report (pg7-8)

completed by public housing, Section 8, voucher Section 3 Residents who applied were not hired

holders, Section 3 Residents

rehabilitation, housing construction, or other public construction project housing or community development assistance for housing HUD Public and Indian housing programs) are those that provide Other HUD programs covered by Section 3 (to distinguish between

Who are Section 3 residents?

Public housing residents including persons with disabilities. Low and very

matching system – WorkInTexas.com. There are two

post all job vacancies with the state's free job Grantees and contractors receiving DR funding must As required by the GLO Section 3 Policy, al

How to Post Job Vacancies

low income persons who live in the area where a HUD assisted projected is located.

What is a Section 3 Business?

A section 3 business is one Employs Section 3 residents or; That is owned by Section 3 residents

on your behalf at WorkIntexas.com. The job title and

assist with account registration and/or can post jobs

account and post jobs directly online or contact your ways to do this. Self-register with an employer

local Workforce Solutions Office. Staff is available to

job description must include the word <u>SEC3</u>

Advertising in other publications such as newspapers

More ways to find Section 3 Applicants

and websites

low and very low income persons Subcontracts with businesses that provide opportunities to

Who receives Economic Opportunities under Section 3?

- For training and employment
- persons in public and assisted housing;
- persons in the affected project neighborhood
- participants in HUD Youth-build programs;

Where can I find my local Worforce Solution Center?

Distributing flyers to the local Public Housing Authority Placing posters in prominent places in target areas

You may search for one here:

offices-services.html?mid=0.07262226541895678 http://www.twc.state.tx.us/dirs/wdas/directory-

- homeless persons.

✓ businesse

businesses which fit the definition of a Section 3 business

How can individuals and businesses find out more about Section 3?

Contact GrantWorks at 512-420-0303 ext.334 or Fair Housing and Equal Opportunity representative at your nearest HUD Office

HUD Compliance and Monitoring?

Section 3 businesses. HUD provides technical assistance to recipients and contractors in order to obtain compliance with Section 3 taken to train and employ Section 3 residents and to award contracts to examines employment and contract records for evidence of actions HUD monitors the performance of recipients and contractors. HUD requirements.

What if it appears that an entity is not complying?

underway. Complaints will be investigated; if appropriate, voluntary requirements has occurred where a HUD-funded project is planned or concerns may file complaints if they think a violation of Section 3 resolutions will be sought. There are appeal rights to the Secretary There is a complaint process. Section 3 residents and business

3 residents and businesses may also seek judicial relief

Section

How can Section 3 businesses or residents complair about a violation of Section 3 requirements?

By filing a complaint in writing to the local HUD FHEO Office or to:

The Assistant Secretary for Fair Housing and Equal

Opportunity

U.S. Department of Housing and Urban Development 451 Seventh Street, SW, Room 5100 Washington, DC 20410-2000 1-800-669-9777

1-800-927-9276 (TTY)

A written compliant should contain: www.hud.gov www.espanol.hud.gov

- Name and address of the person filing the complaint;
- N contractor); Name and address of subject of complaint (HUD recipient or
- ω Section3; Description of acts or omissions in alleged violation of
- 4 Statement of corrective actions sought

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ASSURANCES - CONSTRUCTION PROGRAMS

OMB Approval No. 4040-0009 Expiration Date: 01/31/2019

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE <u>DO NOT</u>RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

- Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
- 2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
- 3. Will not dispose of, modify the use of, or change the terms of the real property title, or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal interest in the title of real property in accordance with awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
- Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
- 5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progress reports and such other information as may be required by the assistance awarding agency or State.
- Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
- Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

- Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
- Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
- Will comply with all Federal statutes relating to 10. non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681- 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C.§794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other non-discrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

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- 11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
- 12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
- 13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
- 14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
- 15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91.190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of

Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

- Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
- Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
- 18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
- Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
- 20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

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General Affirmations

To the extent they apply, Provider affirms and agrees to the following, without exception:

- Provider represents and warrants that, in accordance with Section 2155.005 of the Texas Government Code, neither Provider nor the firm, corporation, partnership, or institution represented by Provider, or anyone acting for such a firm, corporation, partnership, or institution has (1) violated any provision of the Texas Free Enterprise and Antitrust Act of 1983, Chapter 15 of the Texas Business and Commerce Code, or the federal antitrust laws, or (2) communicated directly or indirectly the contents of this Contract or any solicitation response upon which this Contract is based to any competitor or any other person engaged in the same line of business as Provider.
- 2. If the Contract is for services, Provider shall comply with Section 2155.4441 of the Texas Government Code, requiring the purchase of products and materials produced in the State of Texas in performing service contracts.
- 3. Under Section 231.006 of the Family Code, the vendor or applicant [Provider] certifies that the individual or business entity named in this Contract, bid or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this Contract may be terminated and payment may be withheld if this certification is inaccurate.
- 4. A bid or an application for a contract, grant, or loan paid from state funds must include the name and social security number of the individual or sole proprietor and each partner, shareholder, or owner with an ownership interest of at least 25 percent of the business entity submitting the bid or application. Provider certifies it has submitted this information to the GLO.
- 5. If the Contract is for the purchase or lease of computer equipment, as defined by Texas Health and Safety Code Section 361.952(2), Provider certifies that it is in compliance with Subchapter Y, Chapter 361 of the Texas Health and Safety Code, related to the Computer Equipment Recycling Program and the Texas Commission on Environmental Quality rules in Title 30 Texas Administrative Code Chapter 328.
- 6. Pursuant to Section 2155.003 of the Texas Government Code, Provider represents and warrants that it has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the Contract.
- 7. Payments due under the Contract shall be directly applied towards eliminating any debt or delinquency Provider owes to the State of Texas including, but not limited to, delinquent taxes, delinquent student loan payments, and delinquent child support.
- 8. Upon request of the GLO, Provider shall provide copies of its most recent business continuity and disaster recovery plans.

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- 9. If the Contract is for consulting services governed by Texas Government Code Chapter 2254, Subchapter B, in accordance with Section 2254.033 of the Texas Government Code, relating to consulting services, Provider certifies that it does not employ an individual who has been employed by The GLO or another agency at any time during the two years preceding the Provider's submission of its offer to provide consulting services to the GLO or, in the alternative, Provider, in its offer to provide consulting services to the GLO, disclosed the following: (i) the nature of the previous employment with the GLO or other state agency; (ii) the date the employment was terminated; and (iii) the annual rate of compensation for the employment at the time of its termination.
- 10. If the Contract is not for architecture, engineering, or construction services, Provider must use the dispute resolution process provided for in Chapter 2260 of the Texas Government Code to attempt to resolve any dispute arising under the Contract.
- 11. If the Contract is for architecture, engineering, or construction services, subject to Texas Government Code, Section 2260.002 and Texas Civil Practice and Remedies Code Chapter 114, Provider shall use the dispute resolution process provided for in Chapter 2260 of the Texas Government Code to attempt to resolve all disputes arising under this Contract. In accordance with the Texas Civil Practice and Remedies Code, Section 114.005, claims encompassed by Texas Government Code, Section 2260.002(3) and Texas Civil Practice and Remedies Code Section 114.002, shall be governed by the dispute resolution process set forth below in subsections (a)-(d).
 - a. Notwithstanding Texas Government Code, Chapter 2260.002(3) and Chapter 114.012 and any other statute or applicable law, if the Provider's claim for breach of contract cannot be resolved by the parties in the ordinary course of business, Provider may make a claim against the GLO for breach of contract and the GLO may assert a counterclaim against the Provider as is contemplated by Texas Government Code, Chapter 2260, Subchapter B. In such event, Provider must provide written notice to the GLO of a claim for breach of the Contract not later than the 180th day after the date of the event giving rise to the claim. The notice must state with particularity: (1) the nature of the alleged breach; (2) the amount the Provider seeks as damages; and (3) the legal theory of recovery.
 - b. The chief administrative officer, or if designated in the Contract, another officer of the GLO, shall examine the claim and any counterclaim and negotiate with the Provider in an effort to resolve them. The negotiation must begin no later than the 120th day after the date the claim is received, as is contemplated by Texas Government Code, Chapter 2260, Section 2260.052.
 - c. If the negotiation under paragraph (b) above results in the resolution of some disputed issues by agreement or in a settlement, the parties shall reduce the agreement or settlement to writing and each party shall sign the agreement or settlement. A partial settlement or resolution of a claim does not waive a party's rights under this Contract as to the parts of the claim that are not resolved.

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- 16. Provider represents and warrants that all statements and information prepared and submitted in connection with this Contract are current, complete, true, and accurate. Submitting a false statement or making a material misrepresentation during the performance of this Contract is a material breach of contract and may void the Contract or be grounds for its termination.
- 17. Pursuant to Section 2155.004(a) of the Texas Government Code, Provider certifies that neither Provider nor any person or entity represented by Provider has received compensation from the GLO to participate in the preparation of the specifications or solicitation on which this Contract is based. Under Section 2155.004(b) of the Texas Government Code, Provider certifies that the individual or business entity named in this Contract is not ineligible to receive the specified contract and acknowledges that the Contract may be terminated and payment withheld if this certification is inaccurate. This Section does not prohibit Provider from providing free technical assistance.
- 18. Provider represents and warrants that it is not engaged in business with Iran, Sudan, or a foreign terrorist organization, as prohibited by Section 2252.152 of the Texas Government Code.
- 19. If the Contract is for professional or consulting services governed by Texas Government Code Chapter 2254, Provider represents and warrants that none of its employees including, but not limited to, those authorized to provide services under the Contract, were former employees of the GLO during the twelve (12) month period immediately prior to the date of execution of the Contract.
- 20. The Contract shall be governed by and construed in accordance with the laws of the State of Texas, without regard to the conflicts of law provisions. The venue of any suit arising under the Contract is fixed in any court of competent jurisdiction of Travis County, Texas, unless the specific venue is otherwise identified in a statute which directly names or otherwise identifies its applicability to the GLO.
- 21. IF THE CONTRACT IS NOT FOR ARCHITECTURE OR ENGINEERING SERVICES GOVERNED BY TEXAS GOVERNMENT CODE CHAPTER 2254, PROVIDER SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE STATE OF TEXAS AND THE GLO, AND/OR THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED COSTS, ATTORNEY FEES, AND EXPENSES ARISING OUT OF, OR RESULTING FROM ANY ACTS OR OMISSIONS OF PROVIDER OR ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, ORDER FULFILLERS, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE CONTRACT AND ANY PURCHASE ORDERS ISSUED UNDER THE CONTRACT. THE DEFENSE SHALL BE COORDINATED BY PROVIDER WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL WHEN Texas STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND PROVIDER MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE

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CONCURRENCE FROM THE OFFICE OF THE TEXAS ATTORNEY GENERAL. PROVIDER AND THE GLO SHALL FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM.

- 22. IF THE CONTRACT IS FOR ARCHITECTURE OR ENGINEERING SERVICES GOVERNED BY TEXAS GOVERNMENT CODE CHAPTER 2254, PROVIDER SHALL INDEMNIFY AND HOLD HARMLESS THE STATE OF TEXAS AND THE GLO, AND/OR THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONTRACTORS, ASSIGNEES, AND/OR DESIGNEES FROM ANY AND ALL LIABILITY, ACTIONS, CLAIMS, DEMANDS, OR SUITS, AND ALL RELATED DAMAGES, COSTS, ATTORNEY FEES, AND EXPENSES TO THE EXTENT CAUSED BY, ARISING OUT OF, OR RESULTING FROM ANY ACTS OF NEGLIGENCE, INTENTIONAL TORTS, WILLFUL MISCONDUCT, PERSONAL INJURY OR DAMAGE TO PROPERTY, AND/OR OTHERWISE RELATED TO PROVIDER'S PERFORMANCE, AND/OR FAILURES TO PAY A SUBCONTRACTOR OR SUPPLIER BY THE PROVIDER OR ITS AGENTS, EMPLOYEES, SUBCONTRACTORS, ORDER FULFILLERS, CONSULTANTS UNDER CONTRACT TO PROVIDER, OR ANY OTHER ENTITY OVER WHICH THE CONTRACTOR EXERCISES CONTROL, OR SUPPLIERS OF SUBCONTRACTORS IN THE EXECUTION OR PERFORMANCE OF THE CONTRACT. THE DEFENSE SHALL BE COORDINATED BY PROVIDER WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL WHEN Texas STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND PROVIDER MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM THE OFFICE OF THE TEXAS ATTORNEY GENERAL. PROVIDER AND THE GLO SHALL FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM
- 23. PROVIDER SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE GLO AND THE STATE OF TEXAS FROM AND AGAINST ANY AND ALL CLAIMS, VIOLATIONS, MISAPPROPRIATIONS OR INFRINGEMENT OF ANY PATENT, TRADEMARK, COPYRIGHT, TRADE SECRET OR OTHER INTELLECTUAL PROPERTY RIGHTS AND/OR OTHER INTANGIBLE PROPERTY, PUBLICITY OR PRIVACY RIGHTS, AND/OR IN CONNECTION WITH OR ARISING FROM: (1) THE PERFORMANCE OR ACTIONS OF PROVIDER PURSUANT TO THIS CONTRACT; (2) ANY DELIVERABLE, WORK PRODUCT, CONFIGURED SERVICE OR OTHER SERVICE PROVIDED HEREUNDER; AND/OR (3) THE GLO'S AND/OR PROVIDER'S USE OF OR ACQUISITION OF ANY REQUESTED SERVICES OR OTHER ITEMS PROVIDED TO THE GLO BY PROVIDER OR OTHERWISE TO WHICH THE GLO HAS ACCESS AS A RESULT OF PROVIDER'S PERFORMANCE UNDER THE CONTRACT. PROVIDER AND THE GLO shall FURNISH TIMELY WRITTEN NOTICE TO EACH OTHER OF ANY SUCH CLAIM. PROVIDER SHALL BE LIABLE TO PAY ALL COSTS OF DEFENSE, INCLUDING ATTORNEYS' FEES. THE DEFENSE SHALL BE COORDINATED BY PROVIDER WITH THE OFFICE OF THE TEXAS ATTORNEY GENERAL (OAG) WHEN TEXAS STATE AGENCIES ARE NAMED DEFENDANTS IN ANY LAWSUIT AND

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PROVIDER MAY NOT AGREE TO ANY SETTLEMENT WITHOUT FIRST OBTAINING THE CONCURRENCE FROM OAG. IN ADDITION, PROVIDER WILL REIMBURSE THE GLO AND THE STATE OF TEXAS FOR ANY CLAIMS, DAMAGES, COSTS, EXPENSES OR OTHER AMOUNTS, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES AND COURT COSTS, ARISING FROM ANY SUCH CLAIM. IF THE GLO DETERMINES THAT A CONFLICT EXISTS BETWEEN ITS INTERESTS AND THOSE OF PROVIDER OR IF THE GLO IS REQUIRED BY APPLICABLE LAW TO SELECT SEPARATE COUNSEL, THE GLO WILL BE PERMITTED TO SELECT SEPARATE COUNSEL AND PROVIDER WILL PAY ALL REASONABLE COSTS OF THE GLO'S COUNSEL.

- 24. Provider has disclosed in writing to the GLO all existing or potential conflicts of interest relative to the performance of the Contract.
- 25. Sections 2155.006 and 2261.053 of the Texas Government Code, prohibit state agencies from accepting a solicitation response or awarding a contract that includes proposed financial participation by a person who, in the past five years, has been convicted of violating a federal law or assessed a penalty in connection with a contract involving relief for Hurricane Rita, Hurricane Katrina, or any other disaster, as defined by Section 418.004 of the Texas Government Code, occurring after September 24, 2005. Under Sections 2155.006 and 2261.053 of the Texas Government Code, Provider certifies that the individual or business entity named in this Contract is not ineligible to receive the specified contract and acknowledges that this Contract may be terminated and payment withheld if this certification is inaccurate.
- 26. Provider understands that the GLO will comply with the Texas Public Information Act (Chapter 552 of the Texas Government Code) as interpreted by judicial rulings and opinions of the Attorney General of the State of Texas. Information, documentation, and other material related to this Contract may be subject to public disclosure pursuant to the Texas Public Information Act. In accordance with Section 2252.907 of the Texas Government Code, Provider shall make any information created or exchanged with the State/GLO pursuant to the Contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the State or the GLO.
- 27. The person executing this Contract certifies that he/she is duly authorized to execute this Contract on his/her own behalf or on behalf of Provider and legally empowered to contractually bind Provider to the terms and conditions of the Contract and related documents.
- 28. If the Contract is for architectural or engineering services, pursuant to Section 2254.0031 of the Texas Government Code, which incorporates by reference Section 271.904(d) of the Texas Local Government Code, Provider shall perform services (1) with professional skill and care ordinarily provided by competent engineers or architects practicing under the same or similar circumstances and professional license, and (2) as expeditiously as is

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prudent considering the ordinary professional skill and care of a competent engineer or architect.

- 29. The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the Contract or indirectly through a subcontract under the Contract. The acceptance of funds directly under the Contract or indirectly through a subcontract under the Contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. Under the direction of the legislative audit committee, an entity that is the subject of an audit or investigation by the state auditor must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit. Provider shall ensure that this paragraph concerning the authority to audit funds received indirectly by subcontractors through the Contract and the requirement to cooperate is included in any subcontract it awards. The GLO may unilaterally amend the Contract to comply with any rules and procedures of the state auditor in the implementation and enforcement of Section 2262.154 of the Texas Government Code.
- 30. Provider certifies that neither it nor its principals are debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from participation in the Contract by any state or federal agency.
- 31. Provider expressly acknowledges that state funds may not be expended in connection with the purchase of an automated information system unless that system meets certain statutory requirements relating to accessibility by persons with visual impairments. Accordingly, Provider represents and warrants to the GLO that any technology provided to the GLO for purchase pursuant to this Contract is capable, either by virtue of features included within the technology or because it is readily adaptable by use with other technology, of: providing equivalent access for effective use by both visual and nonvisual means; presenting information, including prompts used for interactive communications, in formats intended for non-visual use; and being integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired. For purposes of this Section, the phrase "equivalent access" means a substantially similar ability to communicate with or make use of the technology, either directly by features incorporated within the technology or by other reasonable means such as assistive devices or services which would constitute reasonable accommodations under the Americans With Disabilities Act or similar state or federal laws. Examples of methods by which equivalent access may be provided include, but are not limited to, keyboard alternatives to mouse commands and other means of navigating graphical displays, and customizable display appearance.
- 32. If the Contract is for the purchase or lease of covered television equipment, as defined by Section 361.971(3) of the Texas Health and Safety Code, Provider certifies its compliance with Subchapter Z, Chapter 361 of the Texas Health and Safety Code, related to the Television Equipment Recycling Program.

Revised 1.12.22

Addition of Domestic Preference Clause as required by 2 CFR 200.323

Domestic Preference Clause

PREFERENCE AND PROCUREMENT OF MATERIALS

- a. To the extent applicable, Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired in the following manner:
 - i. competitively within a timeframe allowing compliance with the Contract's performance schedule;
 - ii. in a way that meets the Contract's performance requirements; or
 - iii. at a reasonable price.

To ensure maximum use of recovered/recycled materials pursuant to 2 C.F.R. 200.323, information about this requirement, along with the list of EPA-designated items, is available at the EPA's Comprehensive Procurement Guideline Program website, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

- b. As appropriate and to the extent consistent with law, 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 (including but not limited to iron, aluminum, steel, cement, and other manufactured products).
- c. For purposes of section (b) above:
 - i. "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.
 - ii. "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.



Texas General Land Office Community Development Block Grant (CDBG) Disaster Recovery Program

CERTIFICATION FOR BUSINESS CONCERNS Seeking Section 3 Preference in Contracting and Demonstration of Capability

Economic Opportunities for Low and Very Low-Income Persons

Grantee/Subrecipient:	Contract	Number:		Date:
CONTRACTOR INFORMATION				
Name of Business				
Address of Business				
Type of Business: Corporation	Partnership	Non-P Consor	rofit tium	
Attach the following (Definition of 'Section 3 Business	documentation as Concern [®] in 24 CF	s evidence of Section R 135 describes the	n 3 eligible three altern	e status: ative qualifications.)
For Business claiming status as a Section	on 3 resident-own	ed enterprise:		
Copy of resident lease Copy of evidence of participation in a po assistance program	ublic	Copy of receipt	of public as	sistance
For business entity as applicable:				
Copy of Articles of Incorporation Assumed Business Name Certificate List of owners/stockholders and % own of each appointed officers Organization chart with names and title and brief function statement	nership IS	Certificate of G Partnership Agr Corporation An Latest Board m Additional docu	ood Standin eement nual Report inutes mentation	9
For business entity claiming Section 3 st 3 business(es): List of subcontracted Section 3 business	tatus by subcontrations (es) and subcontra	acting 25 percent of act amount	f the dollar	awarded to qualified Section
For business claiming Section 3 status, residents or were Section 3 eligible resid	by claiming at lea lents within 3 yea	st 30 percent of the rs of date of first en	ir workford	e are currently Section 3 with the business:
List of all current full-time employees PHA/IHA Residential lease less than 3 from day of employment	years	List of employee Cher evidence years from date	es claiming of Section 3 of employn	Section 3 status 3 status less than 3 nent
Evidence of ability to perform successful	lly under the term	s and conditions of	the propos	sed contract:
Current financial statement List of owned equipment List of all contracts for the past two years	s	Statement of ab public policy	ility to comp	ly with
Authorized Name and Signature Attested By:		Date (C	Corporate Se	eal)

REQUIRED CONTRACT PROVISIONS

2 CFR 200.327 Contract provisions. The non-Federal entity's contracts should contain applicable provisions described in Appendix II to Part 200—Contract Provisions for non-Federal Entity Contracts Under Federal Awards. The non-Federal entity's contracts must contain the provisions described in Appendix II to Part 200—Contract Provisions for non-Federal Entity Contracts Under Federal Awards, as applicable. *Language as of April 5, 2022.

THRESHOLD	PROVISION	CITATION
>\$250,000 (Simplified Acquisition Threshold)	Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by <u>41 U.S.C. 1908</u> , 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.	2 CFR 200 APPENDIX II (A)
>\$10,000	All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.	2 CFR 200 APPENDIX II (B)
None	 Equal Employment Opportunity. Except as otherwise provided under <u>41 CFR</u> <u>Part 50</u>, all contracts that meet the definition of "federally assisted construction contract" in <u>41 CFR Part 60-1.3</u> must include the equal opportunity clause provided under <u>41 CFR 60-1.4(b)</u> in accordance with Executive Order 11246, "Equal Employment Opportunity" (<u>30 FR 12319, 12935, 3 CFR Part, 1964-1965</u> Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at <u>41 CFR part 60</u>, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor." 41 CFR 60-1.4 Equal opportunity clause. (b) Federally assisted construction contracts. (1) Except as otherwise provided, each administering agency shall require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of the equal opportunity clause: The [recipient] hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause: During the performance of this contract, the contractor agrees as follows: (2) 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, religio	2 CFR 200 APPENDIX II I and 41 CFR §60-1.4(b)



	(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) 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.	
	The [recipient] further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the [recipient] so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.	
	The21ecipient] agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the21ecipient21ring agency in the discharge of the agency's primary responsibility for securing compliance.	
	The21ecipient1] further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the [recipient] agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the [recipient] under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such [recipient]; and refer the case to the Department of Justice for appropriate legal proceedings.	
>\$2,000	Davis-Bacon Act, as amended (<u>40 U.S.C. 3141-3148</u>). When required by Federal program legislation, 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 (<u>40 U.S.C. 3141-3144</u> , and <u>3146-3148</u>) as supplemented by Department of Labor regulations (<u>29 CFR Part 5</u> , "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted	2 CFR 200 APPENDIX II (D)

	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 Endersl awarding agency. The contrasts must also include a	
	violations to the Federal awarding agency. The contracts must also include a	
	provision for compliance with the Copeland "Anti-Kickback" Act (40 0.5.C.	
	3145), as supplemented by Department of Labor regulations (29 CFR 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 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 the Federal awarding agency.	
	Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708), Where	
	applicable, 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 (20 CEP Part 5) Under 40 U.S.C. 2702 of the	
	Ast, each contractor must be serviced to compute the unress of even mechanic	
	Act, 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	2 652 200
>\$100,000	of the standard work week is permissible provided that the worker is	2 CFR 200
	compensated at a rate of not less than one and a half times the basic rate of pay	APPENDIX II I
	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.	
	Rights to Inventions Made Under a Contract or Agreement. If the Federal award	
	meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the	
	recipient or subrecipient 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	2 CER 200
None	"funding agreement" the recipient or subrecipient must comply with the	APPENDIX II (E)
	requirements of 37 CEP Part 401 "Pights to inventions Made by Nonprofit	ALLENDIX II (L)
	Organizations and Small Business Firms Hader Coursement Grants, Contracts	
	organizations and small Business Firms Under Government Grants, contracts	
	and Cooperative Agreements, and any implementing regulations issued by the	
	awarding agency.	
1	Clean Air Act (42 U.S.C. 7401-7671g.) and the Federal Water Pollution Control	
1	Act (33 U.S.C. 1251-1387), as amended – Contracts and subgrants of amounts	
1	in excess of \$150,000 must contain a provision that requires the non-Federal	
>\$150.000	award to agree to comply with all applicable standards, orders or regulations	2 CFR 200
	issued pursuant to the Clean Air Act (42 U.S.C. 7401-76710) and the Federal	APPENDIX II (G)
1	Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must	
1	be reported to the Federal awarding agency and the Regional Office of the	
	Environmental Protection Agency (EPA).	
- Car 000	Debarment and Suspension (Executive Orders 12549 and 12689) - A contract	2 CFR 200
>\$25,000	award (see 2 CFR 180.220) must not be made to parties listed on the	APPENDIX II (H)

	governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at <u>2 CFR 180</u> that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions 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.	
>\$100,000	Byrd Anti-Lobbying Amendment (<u>31 U.S.C. 1352</u>) – Contractors that apply or bid for an award exceeding \$100,000 must 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 <u>31 U.S.C. 1352</u> . 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.	2 CFR 200 APPENDIX II (I) and 24 CFR §570.303
	See 2 CFR §200.323.	2 CFR 200 APPENDIX II (J)
	See 2 CFR §200.216.	2 CFR 200 APPENDIX II (K)
	See 2 CFR §200.322.	2 CFR 200 APPENDIX II (L)
>\$10,000	An NFE (non-Federal Entity) that is a state agency or an agency of a political subdivision of a state, and the NFE's contractors must comply with Section 6002 of the Solid Waste Disposal Act.56 Applicable NFEs must include a contract provision requiring compliance with this requirement.57 This includes contracts awarded by a state agency or political subdivision of a state and its contractors for certain items, as designated by the EPA, with a purchase price greater than \$10,000.58 Indian Tribal Governments and nonprofit organizations are not required to comply with this provision. Additional requirements are listed below.	2 CFR 200.323
>\$100,000	 §135.38 Section 3 clause All section 3 covered contracts shall include the following clause (referred to as the section 3 clause): A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development 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 135, 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 135 regulations. C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or 	

	if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.	
	D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, 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 135. 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 135.	
	E. 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 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.	
	F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.	
	G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply	
	with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).	
None	Section 889(b)(1) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (FY2019 NDAA) and 2 C.F.R. § 200.216, as implemented by FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim), prohibit the obligation or expending of federal award funds on certain telecommunication products or from certain entities for national security reasons. Effective August 13, 2020, FEMA recipients and subrecipients, as well as their contractors and subcontractors, may not obligate or expend any FEMA award funds to:	2 CFR 200.216

	a. 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;	
	b. 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; or	
	c. 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.	
	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. For purposes of this section:	2.052
		2 CFR
None	(1) "Produced in the United States" means, for iron and steel products, that all	200.322(a)(b)(1)
	manufacturing processes, from the initial melting stage through the application	(2)
	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 ontical fiber: and lumber	
	The Federal awarding agency must establish conflict of interest policies for	
	Federal awards The non-Federal entity must disclose in writing any notential	
None	conflict of interest to the Federal awarding agency or pass-through entity in	2 CFR 200.112
	accordance with applicable Federal awarding agency policy	
	The Enderal awarding agency and the non-Enderal entity should whenever	
	me rederal awarding agency and the non-rederal endry should, whenever	
	practicable, collect, transmit, and score rederal award-related mormation m	
	in accordance with applicable legislative requirements. A machine readable	
	In accordance with applicable legislative requirements. A machine-readable	
	format is a format in a standard computer language (not English text) that can	
	be read automatically by a web browser or computer system. The Federal	
	awarding agency or pass-through entity must always provide or accept paper	
None	versions of Federal award-related information to and from the non-Federal	2 CFR 200.336
	entity upon request. If paper copies are submitted, the Federal awarding agency	
	or pass-through entity must not require more than an original and two copies.	
	when original records are electronic and cannot be altered, there is no need to	
	create and retain paper copies. When original records are paper, electronic	
	versions may be substituted through the use of duplication or other forms of	
	electronic media provided that they are subject to periodic quality control	
	reviews, provide reasonable safeguards against alteration, and remain	
	readable.	
None	Contracting with HUB, 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	2 CER 200 321
	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.	
	Financial records, supporting documents, statistical records, and all other non-	
	Federal entity records pertinent to a Federal award must be retained for a	
	period of three years from the date of submission of the final expenditure	
	report or, for Federal awards that are renewed guarterly or annually, from the	
	date of the submission of the guarterly or annual financial report, respectively.	
	as reported to the Federal awarding agency or pass-through entity in the case	
	of a subrecipient. Federal awarding agencies and pass-through entities must not	
	impose any other record retention requirements upon non-Federal entities. The	
	only exceptions are the following:	
	(a) If any litigation claim, or audit is started before the expiration of the 3-year	
	period the records must be retained until all litigation, claims, or audit findings	
	involving the records have been resolved and final action taken.	
	(b) When the non-Federal entity is notified in writing by the Federal awarding	
	agency cognizant agency for audit, oversight agency for audit, cognizant agency	
	for indirect costs or pass-through entity to extend the retention period	
	(c) Records for real property and equipment acquired with Federal funds must	
	he retained for 3 years after final disposition	
	(d) When records are transferred to or maintained by the Federal awarding	
	agency or nace-through entity the 3-year retention requirement is not	
	applicable to the non-Eederal entity	
None	(a) Records for program income transactions after the period of performance	2 CER 200 224
None	In some cases, recipients must report program income after the period of	2 CFR 200.554
	performance. Where there is such a requirement, the retention period for the	
	records partaining to the earning of the program income starts from the end of	
	the non-Federal entity's fiscal year in which the program income is earned	
	(f) Indirect cost rate proposals and cost allocations plans. This paragraph applies	
	to the following types of documents and their supporting records: Indirect cost	
	rate computations or proposals cost allocation plans and any similar	
	accounting computations of the rate at which a particular group of costs is	
	chargeable (such as computer usage chargeback rates or composite fringe	
	hanafit rates)	
	 If submitted for pegatigtion of the proposal plan, or other computation is 	
	required to be submitted to the Federal Government (or to the part-through	
	entity) to form the basis for negotiation of the rate, then the 2-year retention	
	period for its supporting records starts from the date of such submission	
	(2) If not submitted for negotiation of the proposal plan or other computation	
	is not required to be submitted to the Federal Government (or to the part	
	through entity) for negotiation nurnoses, then the 3-year retention period for	
	the proposal plan or computation and its supporting records starts from the	
	and of the fiscal year (or other accounting period) covered by the proposal plan	
	or other computation	
	or other comparation.	
None	CONTRACTS WITH COMPANIES ENGAGED IN BUSINESS WITH IRAN, SUDAN, OR FOREIGN TERRORIST ORGANIZATION PROHIBITED. A governmental entity may not enter into a governmental contract with a company that is identified on a list prepared and maintained under Section 806.051, 807.051, or 2252.153. The term "foreign terrorist organization" in this paragraph has the meaning assigned to such a term in Section 2252.151(2) of the Texas Government Code.	Texas Government Code 2252.152
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>\$100,000	 PROVISION REQUIRED IN CONTRACT. (a) This section applies only to a contract that: (1) is between a governmental entity and a company with 10 or more full-time employees; and (2) has a value of \$100,000 or more that is to be paid wholly or partly from public funds of the governmental entity. (b) A governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract. 	Texas Government Code 2271
Option Contract Language for contracts awarded prior to Grant Award	The contract award is contingent upon the receipt of CDBG MIT-MOD funds. If no such funds are awarded, the contract shall terminate.	Optional
	Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.	42 U.S.C. 6201
	The Firm 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.	Section 504 of the Rehabilitation Act of 1973, as amended.

VERIFICATION REQUIRED BY TEXAS GOVERNMENT CODE CHAPTER 2270

By signing below, the signatory hereby verifies that the firm it represents:

- 1. Does not boycott Israel; and,
- 2. Will not boycott Israel during the term of the contract.

SIGNED BY:						
Print Name & Title:						
Firm Name:						
Date Signed:						
	NO	TARIZA	TION			
THE STATE OF)					
COUNTY OF)					
BEFORE ME, the	undersigned	notary	public	on	this	day personally appeared (Company), who, being duly
sworn, stated under oath that h Section 2270.002 and said state	e/she has read th ments contained t	ne foregoin herein are	ng verific true and	ation r correct	equire	by Texas Government Code
SWORN TO AND SUE	BSCRIBED befor	e me on th	ie	_day of		, 201
		NOTARY	PUBLIC	IN AN	۱D	
		FOR THE	STATE	OF		

The following definitions apply to Texas Government Code Section 2270.001:

(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 limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company, or affiliate of those entities or business associations that exists to make a profit.

State law requires any firm entering into an agreement or contract with the Authority to complete the foregoing verification. TEX. GOV'T CODE § 2270.002.

ADDITIONAL FEDERAL REQUIREMENTS

- 1. Right to Inventions Under a Contract or Agreement
- 2. Procurement of Recovered Materials
- 3. Solid Waste Disposal Act
- 4. Foreign Terrorist Organizations (Chapter 2252 Texas Government Code)
- 5. 200.216 Prohibition on certain telecommunications and video surveillance services or equipment
- 6. 200.322 Domestic Preferences for Procurements

1. Right to Inventions Under a Contract or Agreement

799 PART 401—RIGHTS TO INVENTIONS MADE BY NONPROFIT ORGANIZATIONS AND SMALL BUSINESS FIRMS UNDER GOVERNMENT GRANTS, CONTRACTS, AND COOPERATIVE AGREEMENTS:

Patent Rights (24 CFR 85.36(i)(8)) No discovery or patent rights arising from any discovery or invention which arises or is developed in the course of or under this contract shall be exercised by or on behalf of the contractor.

Copyrights (24 CFR 85.36(i)(9)) No reports, handbooks, documents, maps, data, or pamphlets produced in whole or in part under this contract will be the subject of any application for copyright by, or on behalf of the contractor.

2.§ 200.322 Procurement of recovered materials.

A <u>non-Federal entity</u> that is a <u>state</u> agency or agency of a political subdivision of a <u>state</u> and its <u>contractors</u> must comply with section 6002 of the <u>Solid Waste Disposal Act</u>, 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 <u>40 CFR part 247</u> 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.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014]

3. Solid Waste Disposal Act

Section 6002 of the <u>Solid Waste Disposal Act</u>. <u>State</u> agencies and agencies of a political subdivision of a <u>state</u> that are using assistance under this part for procurement, and any person contracting with such an agency with respect to work performed under an assisted contract, must comply with the requirements of Section 6003 of the <u>Solid Waste Disposal Act</u>, as amended by the Resource Conservation and Recovery <u>Act</u>. In accordance with Section 6002, these agencies and persons must:

(1) Procure items designated in guidelines of the Environmental Protection Agency (EPA) at <u>40 CFR part</u> <u>247</u> 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 in the preceding fiscal year exceeded \$10,000;

(2) Procure solid waste management services in a manner that maximizes energy and resource recovery; and

(3) Must have established an affirmative procurement program for the procurement of recovered materials identified in the EPA guidelines.

4. Foreign Terrorist Organizations (Chapter 2252 Texas Government Code)

SUBCHAPTER F. PROHIBITION ON CONTRACTS WITH CERTAIN COMPANIES

Sec. 2252.151. DEFINITIONS. In this subchapter:

(1) "Company" has the meaning assigned by Section 806.001.

(2) "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.

(3) "Governmental contract" means a contract awarded by a governmental entity for general construction, an improvement, a service, or a public works project or for a purchase of supplies, materials, or equipment. The term includes a contract to obtain a professional or consulting service subject to Chapter <u>2254</u>.

(4) "Governmental entity" has the meaning assigned by Section 2252.001.

Added by Acts 2017, 85th Leg., R.S., Ch. 192 (S.B. 252), Sec. 1, eff. September 1, 2017.

Sec. 2252.152. CONTRACTS WITH COMPANIES ENGAGED IN BUSINESS WITH IRAN, SUDAN, OR FOREIGN TERRORIST ORGANIZATION PROHIBITED. A governmental entity may not enter into a governmental contract with a company that is identified on a list prepared and maintained under Section 806.051, 807.051, or 2252.153.

Added by Acts 2017, 85th Leg., R.S., Ch. 192 (S.B. 252), Sec. 1, eff. September 1, 2017.

Sec. 2252.153. LISTED COMPANIES. The comptroller shall prepare and maintain, and make available to each governmental entity, a list of companies known to have contracts with or provide supplies or services to a foreign terrorist organization.

Added by Acts 2017, 85th Leg., R.S., Ch. 192 (S.B. 252), Sec. 1, eff. September 1, 2017.

Sec. 2252.154. EXCEPTION. Notwithstanding any other law, a company that the United States government affirmatively declares to be excluded from its federal sanctions regime relating to Sudan, its federal sanctions regime relating to Iran, or any federal sanctions regime relating to a foreign terrorist organization is not subject to contract prohibition under this subchapter.

Added by Acts 2017, 85th Leg., R.S., Ch. 192 (S.B. 252), Sec. 1, eff. September 1, 2017.

5. 200.216 Prohibition on certain telecommunications and video surveillance services or equipment

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

(1) Procure or obtain;

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

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

(i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities). (ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

(iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

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

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

(d) See also § 200.471.

6.200.322 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.

TECHNICAL SPECIFICATIONS

SECTION 02 52 23 CRUSHED LIMESTONE FLEXIBLE BASE

1. DESCRIPTION

This Specification shall govern all work for furnishing and placing Crushed Limestone Flexible Base required to complete the project.

2. MATERIAL

Crushed Limestone Flexible Base shall consist of crushed limestone produced from oversize quarried aggregate, sized by crushing and produced from a naturally occurring single source, meeting the requirements for Type 'A' material as specified in Texas Department of Transportation (TxDOT) Specification Item 247 "Flexible Base". Crushed gravel or uncrushed gravel shall <u>not</u> be acceptable. No blending of sources and/or additive materials will be allowed. The material shall be free of vegetation and shall be approved by the Engineer. All acceptable material shall be screened and the oversize shall be crushed and returned to the screened material in such a manner that a uniform product will be produced which meets all of the physical requirements for Grade 1-2 as specified in TxDOT Specification Item 247 "Flexible Base".

3. TESTING

The Owner will engage a laboratory and pay for one test each gradation, liquid limit, plasticity index, modified proctor, moisture-density relation, CBR, and necessary field densities. The Engineer may call for additional tests at any time. The cost of all retests, in case of failure to meet specifications, will be deducted from the Contractor's payment. The Owner will pay for proctor and soil constants and abrasion tests at the rate described in the materials testing schedule. If material changes, the Contractor shall pay the cost of additional tests required by the Engineer. The Engineer may waive testing and/or lime admix for small amounts for unimportant uses.

4. CONSTRUCTION METHODS

Prior to placement of flexible base, the surface of the previous underlying course shall be finished true to line and grade as established, and in conformity with the typical section shown on the drawings. Grade tolerance shall be generally 1/2 inch, and highs and lows must approximately balance. If called for in the drawings or elsewhere in the contract documents, geogrid, as specified in Section 022040 "Street Excavation", shall be placed as indicated.

Flexible base shall be delivered and spread the same day if possible (no later than the next day).

Base shall be mixed as required to produce a uniform mixture with water. Base shall be placed in uniform lifts not to exceed 10-inch loose lifts or 8-inch compacted lifts. Moisture and density requirements shall be as indicated on the drawings, typical minimum 98% Modified Proctor (ASTM D1557) under flexible pavements or typical minimum 98% Standard Proctor (ASTM D698) under concrete pavement and to within + 2% of optimum moisture. The section may be accepted if no more than 1 of the 5 most recent moisture or density tests is outside of the specified limits, and the failed test is within +1% deviation from specified moisture or density requirements.

The surface of the compacted base, after meeting moisture and density requirements, shall be primed in accordance with specification Section 025412 "Prime Coat".

On completion of compaction and priming, the surface shall be smooth and conform to lines, grades, and sections shown on the drawings. Areas with any deviation in excess of 1/4 inch in cross-section and in lengths of 16 feet measured longitudinally shall be corrected by loosening, adding or removing material, reshaping, and recompacting by repriming and rolling.

Moisture and density shall be maintained until the paving is complete. Excessive loss of moisture shall be prevented by sprinkling, sealing, or covering with a subsequent layer. Should the base, due to any reason or cause, lose the required stability, density, or moisture before it is protected by placement of the next layer, it shall be re-compacted, refinished, and retested at the expense of the Contractor until acceptable to the Owner

5. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, crushed limestone flexible base shall be measured by the square yard complete in place. Payment shall be full compensation for all materials, royalty, hauling, placing, compacting, labor, equipment, tools, and incidentals necessary for the completion of work. Prime shall be measured and paid under separate bid item if specified on the Bid Form. Geogrid shall be measured and paid under separate bid item if specified on the Bid Form.

SECTION 02 83 20 CHAIN LINK FENCE

1. DESCRIPTION

This specification governs for the design, construction, and the requirements of the component parts and accessories for chain link fence.

2. MATERIAL

All materials shall meet the requirements as indicated below or as otherwise specified on the plans.

- <u>Fabric</u> The fabric width shall be as shown on the plans. The fabric shall be 9 gage wire woven into 2-inch mesh hot-dip galvanized after fabrication. Fabric 48 inches and under shall be furnished with knuckling at one selvage and twisting and barbing at the other. Fabric 60 inches high and over shall have twisting and barbing on both selvages. Except as herein provided, chain link fence fabric shall conform to the specifications of ASTM Designation: A392, Class I.
- 2 <u>Barbed Wire</u> Barbed wire shall conform to ASTM A121, unless specified otherwise. Barbed wire shall consist of three strands of 12¹/₂ gage wire with 14 gage point barbs spaced approximately 5 inches apart. Galvanizing for barbed wire shall conform to ASTM Designation: A121, Class 2.
- 3 <u>Posts, Braces and Gates</u> Steel pipe used for posts, braces and gate frames shall conform to the specifications of ASTM Designation: A120. Steel sections shall be of good commercial quality weldable steel. Posts, frames and braces shall be as specified below or as otherwise specified.
 - (a) Line Posts
 - 1. 2-inch nominal diameter steel pipe.
 - 2. 1⁷/₈-inch 2¹/₄-inch "H" section of high carbon steel; minimum weight 4.1 pounds per linear foot.
 - (b) End and Corner Posts
 - 1. 2¹/₂" nominal diameter steel pipe.
 - 2. $2\frac{1}{2}$ " square tubular steel; minimum weight 5.79 pounds per linear foot.
 - (c) Swing Gate Posts

Swing and gate posts shall conform to ASTM Designation: A120 and shall be in the following sizes:

Pipe Size <u>(O.D.</u> <u>Nominal)</u>	Square <u>(Tubular)</u>	Gate Length
2.875 in.	2.5 in.	Up to 6 feet
4.0 in.	3.0 in.	7 feet to 12 feet
6.625 in.	-	13 feet and above

(a) Gate Frames

Gate frames shall be standard heavy type, welded, watertight, rigid frame with adequate internal bracing and tension members to prevent sagging. Furnish hinges, latches, stops, keepers and similar items as approved. Gates to swing open 180 degrees with keepers to hold gates in open position. Furnish latches with provisions for padlocking. On gates of 4-foot length or less, provide latches that automatically engage when gate is swung shut. The size of gate frame members shall be as follows unless otherwise specified. Gates shall be provided with a positive means of maintaining the gate in the closed position.

	O. D. or Dimensior	<u>ns, Nominal</u>
Use and Section	Round	Square
Frame for fabric 6' and less, and leaf widths not exceeding 8'	1.66"	1.5"
Frame for fabric over 6' or gate		
leafs over 8' width	1.9"	2.0"
Internal braces	1.66"	1.5"
Top rails and post brac	ces 1.66"	-

- 4. <u>Top Rails</u> Top rails shall be 1.66 inches O.D. nominal tubular; lengths of not less than 18 feet conforming to ASTM Designation: A120 and shall be fitted with couplings for connecting the lengths into a continuous run. The couplings shall be not less than 6 inches long, with 0.070 inch minimum wall thickness, and shall allow for expansion and contraction of the rail. The top rail shall pass through the base of line post barbed wire extension arm and fasten securely to terminal posts.
- 5 Bracing Bracing shall be provided for each gate, corner, pull and end post for use when top rail is omitted or with fabric over 6 feet, and shall consist of round tubular steel, 1.66 inches O.D. nominal conforming to ASTM Designation: A120. Bracing shall extend to each adjacent line post at approximately mid-height of the fabric. A truss consisting of a rod not less than 3/8 inch nominal diameter from the line post back to the gate, corner, pull or end post with a turnbuckle or other approved method of adjustment shall also be included.
- 6 <u>Barbed Wire Extension Arm</u> Use standard 45 degree, 3 wire, barbed wire extension arms on posts, except end and gate posts on which use standard post top. Provide hole for top rail. Barbed wire extension arms shall conform to ASTM Designation: A153.
- <u>Tension Wire</u> If top rail is not specified, a top tension wire shall be provided. Spiraled or crimped tension wire shall be not less than #7 gage and shall conform to ASTM Designation: A116, Class 3. Ties or clips shall be provided for attaching each wire to the fabric at intervals not exceeding 2 feet.
- 8 <u>Stretcher Bars</u> Stretcher bars shall not be less than 3/16 by 3/4 inch steel conforming to ASTM Designation: A153. Stretcher bars shall not be less than 2 inches shorter than the full height of the fabric with which they are used. One stretcher bar shall be provided for each gate and end post and two for each corner and pullpost.

9. <u>Ties, Bands or Clips</u> - Ties of 9 gage steel wire shall be provided in sufficient number for attaching the fabric to all line posts at intervals not exceeding 15 inches.

Bands or clips of adequate strength shall be provided in sufficient number for attaching the fabric and stretcher bars to all terminal posts at intervals not exceeding 15 inches. Tension bands and brace bands shall be formed from flat or beveled steel and shall have a minimum thickness of 0.115 inch and a minimum width of 7/8 inch, and shall conform to ASTM Designation: A153.

3. CONSTRUCTION METHODS

Maximum post spacing shall be 10 feet unless specified otherwise. Concrete footings shall be Class "A" Concrete (see Specification Section 030020 "Portland Cement Concrete") of the following dimensions:

Type <u>of</u> <u>Post</u>	Fabric <u>Height</u>	Hole <u>Diameter</u>	Hole <u>Depth</u>	Post <u>Embedment</u>
Line	3'-4'	6"	24"	21"
Line	5'	8"	30"	27"
Line	6'-12'	9"	38"	36"
Terminal	3'-5'	10"	32"	30"
Terminal	6'-12'	12"	38"	36"

Erect fencing to follow natural ground surface, but adjust minor irregularities in grade as directed. Construct fence to true alignment.

4. MEASUREMENT AND PAYMENT

Unless otherwise specified on the Bid Form, chain link fence shall not be measured and will be considered subsidiary to the project.

Payment shall be full compensation for furnishing and installing all materials, and for all labor, tools, equipment and incidentals required to construct the fence as required by the plans and these specifications.

END OF SECTION

SECTION 03 00 20 PORTLAND CEMENT CONCRETE

1. DESCRIPTION

This specification shall govern for the materials used; for the storing and handling of materials; and for the proportioning and mixing of concrete for culverts and incidental concrete construction.

The concrete shall be composed of Portland cement, aggregates (fine and coarse), admixtures if desired or required, and water, proportioned and mixed as hereinafter provided.

2. MATERIALS

(1) Cement

The cement shall be either Type I, II or III Portland Cement conforming to ASTM Designation: C 150, modified as follows:

Unless otherwise specified by the Engineer, the specific surface area of Type I and II cements shall not exceed 2000 square centimeters per gram (Wagner Turbidimeter - Test Method Tex-310-D). For concrete piling, the above limit on specific surface area is waived for Type II cement only. The Contractor shall furnish the Engineer, with each shipment, a statement as to the specific surface area of the cement expressed in square centimeters per gram.

For cement strength requirements, either the tensile or compressive test may be used.

Either Type I or II cement shall be used unless Type II is specified on the plans. Except when Type II is specified on the plans, Type III cement may be used when the anticipated air temperature for the succeeding 12 hours will not exceed $60 \square$ F. Type III cement may be used in all precast prestressed concrete, except in piling when Type II cement is required for substructure concrete.

Different types of cement may be used in the same structure, but all cement used in any one monolithic placement shall be of the same type and brand. Only one brand of each type will be permitted in any one structure unless otherwise authorized by the Engineer.

Cement may be delivered in bulk where adequate bin storage is provided. All other cement shall be delivered in bags marked plainly with the name of the manufacturer and the type of cement. Similar information shall be provided in the bills of lading accompanying each shipment of packaged or bulk cement. Bags shall contain 94 pounds net. All bags shall be in good condition at time of delivery.

All cement shall be properly protected against dampness. No caked cement will be accepted.

Cement remaining in storage for a prolonged period of time may be retested and rejected if it fails to conform to any of the requirements of these specifications.

(2) Mixing Water

Water for use in concrete and for curing shall be free from oils, acids, organic matter or other deleterious substances and shall not contain more than 1000 parts per million of chlorides as CL nor than 1000 parts million of sulfates as SO4.

Water from municipal supplies approved by the State Health Department will not require testing, but water from other sources will be sampled and tested before use in structural concrete.

Tests shall be made in accordance with the "Standard Method of Test for Quality of Water to be used in Concrete" (AASHO Method T-26), except where such methods are in conflict with provisions of this specification.

(3) Coarse Aggregate

Coarse aggregate shall consist of durable particles of gravel, crushed blast furnace slag, crushed stone, or combinations thereof; free from frozen material or injurious amount of salt, alkali, vegetable matter, or other objectionable material either free or as an adherent coating; and its quality shall be reasonably uniform throughout. It shall not contain more than 0.25 percent by weight of clay lumps, nor more than 1.0 percent by weight of shale, nor more than 5 percent of weight of laminated and/or friable particles when tested in accordance with Test Method Tex-413.A. It shall have a wear of not more than 40 percent when tested in accordance with Test Method Tex-410-A.

Unless otherwise specified on the plans, coarse aggregate will be subjected to five cycles of the soundness test in accordance with Test Method Tex-411-A. The loss shall not be greater than 12 percent when sodium sulfate is used, or 18 percent when magnesium sulfate is used.

Permissible sizes of aggregate shall be governed by Table 4, except that when exposed aggregate surfaces are required, coarse aggregate gradation will be as specified on the plans.

When tested by approved methods, the coarse aggregate, including combinations of aggregates when used, shall conform to the grading requirements shown in Table 1.

	Percent Retained on each Sieve									
Aggregate Grade No.	Nominal Size	2½ In.	2 In.	1-½ In.	1 In.	³ ⁄4 In.	¹ / ₂ In.	3/8 In.	No. 4	No. 8
1	2 in.	0	0 to 20	15 to 50		60 to 80			95 to 100	
2 (467)*	1-½ in.		0	0 to 5		30 to 65		70 to 90	95 to 100	
4 (57)*	1 in.			0	0 to 5		40 to 75		90 to 100	95 to 100
8	3/8 in.						0	0 to 5	35 to 80	90 to 100

TABLE 1 Coarse Aggregate Gradation Chart

*Numbers in parenthesis indicate conformance with ASTM C33.

The aggregate shall be washed. The Loss by Decantation (Test Method Tex-406-A) plus the allowable weight of clay lumps, shall not exceed one percent, or the value shown on the plans, whichever is smaller.

(4) Fine Aggregate

Fine aggregate shall consist of clean, hard, durable and uncoated particles of natural or manufactured sand or a combination thereof, with or without a mineral filler. It shall be free from frozen material or injurious amounts of salt, alkali, vegetable matter or other objectionable material and it shall not contain more than 0.5 percent by weight of clay lumps. When subjected to the color test for organic impurities (Test Method Tex- 408-A), it shall not show a color a darker than standard.

The fine aggregate shall produce a mortar having a tensile strength equal to or greater than that of Ottawa sand mortar when tested in accordance with Test Method Tex-317-D.

Where manufactured sand is used in lieu of natural sand for slab concrete subject to direct traffic, the acid insoluble residue of the fine aggregate shall be not less than 28 percent by weight when tested in accordance with Test Method Tex-612-J.

When tested by approved methods, the fine aggregate or combinations of aggregates, including mineral filler, shall conform to the grading requirements shown in Table 2.

	Percent Retained on Each Sieve							
Aggregate Grade No.	3/8 In.	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200
1	0	0 to 5	0 to 20	15 to 50	35 to 75	70 to 90	90 to 100	97 to 100

Table 2 Fine Aggregate Gradation Chart

NOTE 1: Where manufactured sand is used in lieu of natural sand, the percent retained on the No. 200 sieve shall be 94 to 100.

NOTE 2: Where the sand equivalent value is greater than 85, the retainage on the No. 50 sieve may be 70 to 94 percent.

Fine aggregate will be subjected to the Sand Equivalent Test (Test Method Tex-203-F). The sand equivalent shall not be less than 80 nor less than the value shown on the plans, whichever is greater.

For Class A and C and E Concrete, the fineness modulus as defined below for fine aggregates shall be between 2.30 and 3.10.

The fineness modulus will be determined by adding the percentages by weight retained on

the following sieves, and dividing by 100; Nos. 4, 8, 16, 30, 50 and 100.

(5) Mineral Filler

Mineral filler shall consist of stone dust, clean crushed sand, or other approved inert material.

(6) Mortar (Grout)

Mortar for repair of concrete shall consist of 1 part cement, 2 parts finely graded sand, and enough water to make the mixture plastic. When required to prevent color difference, white cement shall be added to produce the color required. When required by the Engineer, latex adhesive shall be added to the mortar.

(7) Admixtures

Calcium Chloride will not be permitted. Unless otherwise noted, air-entraining, retarding and water reducing admixtures may be used in all concrete and shall conform to the following requirements:

A "water-reducing, retarding admixture" is defined as a material which, when added to a concrete mixture in the correct quantity, will reduce the quantity of mixing water required to produce concrete of a given consistency and will retard the initial set of the concrete.

A "water-reducing admixture" is defined as a material which, when added to a concrete mixture in the correct quantity, will reduce the quantity of mixing water required to produce concrete of a given consistency.

(a) <u>Retarding and Water Reducing Admixtures</u>. The admixture shall meet the requirements for Type A and Type D admixture as specified in ASTM Designation: C 494, modified as follows:

- (1) The water-reducing retarder shall retard the initial set of the concrete a minimum of 2 hours and a maximum of 4 hours, at a specified dosage rate, at a temperature of 90 □ F.
- (2) The cement used in any series of tests shall be either the cement proposed for specific work or a "reference" Type I cement from one mill.
- (3) Unless otherwise noted on the plans, the minimum relative durability factor shall be 80.

The air entraining admixture used in the referenced and test concrete shall be neutralized Vinsol resin.

(b) <u>Air Entraining Admixture</u>. The admixture shall met the requirements of ASTM Designation: C 260 modified as follows:

- (1) The cement used in any series of tests shall be either the cement proposed for specific work or a "reference" Type I cement from one mill.
- (2) Unless otherwise noted on the plans, the minimum relative durability factor shall be 80.

The air entraining admixture used in the referenced concrete shall be neutralized Vinsol resin.

3. STORAGE OF CEMENT

All cement shall be stored in well ventilated weatherproof buildings or approved bins, which will protect it from dampness or absorption of moisture. Storage facilities shall be ample, and each shipment of packaged cement shall be kept separated to provide easy access for identification and inspection.

The Engineer may permit small quantities of sacked cement to be stored in the open for a maximum of 48 hours on a raised platform and under waterproof covering.

4. STORAGE OF AGGREGATE

The method of handling and storing concrete aggregate shall prevent contamination with foreign materials. If the aggregates are stored on the ground, the sites for the stock piles shall be clear of all vegetation and level. The bottom layer of aggregate shall not be disturbed or used without re-cleaning.

When conditions require the use of two or more sizes of aggregates, they shall be separated to prevent intermixing. Where space is limited, stock piles shall be separated by physical barriers.

Methods of handling aggregates during stockpiling and subsequent use shall be such that segregation will be minimized.

Unless otherwise authorized by the Engineer, all aggregate shall be stockpiled at least 24 hours to reduce the free moisture content.

5. MEASUREMENT OF MATERIALS

The measurement of the materials, except water, used in batches of concrete shall be by weight. The fine aggregate, coarse aggregate and mineral filler shall be weighed separately. Where bulk cement is used it shall be weighed separately but batch weighing of sacked cement will not be required. Where sacked cement is used, the quantities of material per batch shall be based upon using full bags of cement. Batches involving the use of fractional bags will not be permitted.

Allowance shall be made for the water content in the aggregates.

Bags of cement varying more than 3 percent from the specified weight of 94 pounds may be rejected, and when the average weight per bag in any shipment, as determined by weighing 50 bags taken at random, is less than the net weight specified, the entire shipment may be rejected. If the shipment is accepted, the Engineer will adjust the concrete mix to a net weight per bag fixed by an average of all individual weights which are less than the average weight determined from the total number weighed.

6. CLASSIFICATION AND MIX DESIGN

It shall be the responsibility of the Contractor to furnish the mix design, using a Coarse Aggregate Factor acceptable to the Engineer, for the class(es) of concrete specified. The mix shall be designed by a qualified concrete technician to conform with the requirement contained herein and in accordance with the THD Bulletin C-11. The Contractor shall perform, at his own expense, the work required to substantiate the design, except the testing of strength specimens, which will be done by the Engineer. Complete concrete design data shall be submitted to the Engineer for approval.

It shall also be the responsibility of the Contractor to determine and measure the batch quantity of each ingredient, including all water, so that the mix conforms to these specifications and any other requirements shown on the plans.

In lieu of the above mix design responsibility, the Contractor may accept a design furnished by the Engineer, however, this will not relieve him of providing concrete meeting the requirements of these specifications.

Trial batches will be made and tested using all the proposed ingredients prior to the placing of concrete, and when the aggregate and/or brand of cement or admixture is changed. Trial batches shall be made in the mixer to be used on the job. When Transit Mix concrete is to be used, the trial designs will be made in a transit mixer representative of the mixers to be used. Batch size shall not be less than 50 percent of the rated mixing capacity of the truck.

Mix designs from previous or concurrent jobs may be used without trial batches if it is shown that no substantial change in any of the proposed ingredients has been made.

The coarse aggregate factor shall not be more than 0.82, except that when the voids in the coarse aggregate exceed 48 percent of the total dry loose volume, the coarse aggregate factor shall not exceed 0.85. The coarse aggregate factor shall not be less than 0.70 for Grades 1, 2 and 3 aggregate.

If the strength required for the class of concrete being produced is not secured with the cement specified in Table 4, the Contractor may use an approved water reducing or retarding admixture, or he shall furnish aggregates with different characteristics which will produce the required results. Additional cement may be required or permitted as temporary measure until the redesign is checked.

Water reducing or retarding agents may be used with all classes of concrete at the option of the Contractor. When water reducing or retarding agents are used at the option of the Contractor, reduced dosage of the admixture will be permitted.

Entrained air will be required in accordance with Table 4. The concrete shall be designed to entrain 5 percent air when Grade 2 coarse aggregate is used and 6 percent when Grade 3 coarse aggregate is used. Concrete as placed in the structure shall contain the proper amount as required above with a tolerance of plus or minus 1-1/2 percentage points. Occasional variations beyond this tolerance will not be cause for rejection. When the quantity of entrained air is found to be above 7 percent with Grade 2 coarse aggregate or 8 percent for Grade 3 coarse aggregate, additional test beams or cylinders will be made. If these beams or cylinders pass the minimum flexural or compressive requirements, the concrete will not be rejected because of the variation in air content.

7. CONSISTENCY

In cases where the consistency requirements cannot be satisfied without exceeding the maximum allowable amount of water, the Contractor may use, or the Engineer may require, an approved water reducing or retarding agent or the Contractor shall furnish additional aggregates, or aggregates with different characteristics, which will produce the required results. Additional cement may be required or permitted as a temporary measure until aggregates are changed and designs checked with the difference aggregates or admixture.

The consistency of the concrete as placed should allow the completion of all finishing operations without the addition of water to the surface. When field conditions are such that additional moisture is needed for the final concrete surface finishing operation, the required

water shall be applied to the surface by fog spray only, and shall be held to a minimum. The concrete shall be workable, cohesive, possess satisfactory finishing qualities, and of the stiffest consistency that can be placed and vibrated into a homogenous mass. Excessive bleeding shall be avoided. Slump requirements will be as specified in Table 3.

TABLE 3 Slump Requirements

Concrete Designation	Desired Slump	Max. Slump
Structural Concrete (1) Thin-Walled Sections	4	5
(9" or less) (2) Slabs, Caps, Columns, Piers, Wall Sections 9", etc.	3	4
Underwater or Seal Concrete	5	6
Riprap, Curb, Gutter and Other Miscellaneous Concrete	2.5	4

NOTE: No concrete will be permitted with slump in excess of the

maximums shown.

8. QUALITY OF CONCRETE

General

The concrete shall be uniform and workable. The cement content, maximum allowable water cement ration, the desired and maximum slump and the strength requirements of the various classes of concrete shall conform to the requirements of Table 3 and Table 4 and as required herein.

During the process of the work, the Engineer will cast test cylinders or beams as a check on the compressive or flexural strength of the concrete actually placed.

A test shall be defined as the average of the breaking strength of two cylinders or <u>two beams</u>, as the case may be. Specimen will be tested in accordance with Test Methods Tex-418-A or Tex-420-A.

Test beams or cylinders will be required as specified on the plans. For small placements on structures such as manholes, inlets, culverts, wingwalls, etc., the Engineer may vary the number of tests to a minimum of one for each 25 cubic yards placed over a several dayperiod.

All test specimens, beams of cylinders, representing tests for removal of forms and/or falsework shall be cured using the same methods, and under the same conditions as the concrete represented.

"Design Strength" beams and cylinders shall be cured in accordance with THD Bulletin C-11.

The Contractor shall provide and maintain curing facilities as described in Bulletin C-11 for the purpose of curing test specimens. Provision shall be made to maintain the water in the curing tank at temperatures between $70 \square$ F and $90 \square$ F.

When control of concrete quality is by twenty-eight day compressive tests, job control will be by seven day compressive tests which are shown to provide the required twenty-eight day strength, based on results from trial batches. If the required seven day strength is not secured with the cement specified in Table 4, changes in the batch design will be made.

Class of Concrete	Sx. Cement per C.Y.	Min. Comp Strength (fc) 28 Day psi	Min. Beam Strength 7 Day psi	Max. Water Cement Ratio	Coarse Aggr. No.
A*	5.0	3000	500***	6.5	2-4- 8****
B*	4.5	2500	417	8.0	2-4- 8****
C*	6.0	3600	600***	6.0	1-2-4**
D	6.0	3000	500	7.0	2-4
S	6.5	4000	570	5.0	2-4

Classes of Concrete

TABLE 4

*Entrained Air (slabs, pier and bent concrete)

**Grade 1 coarse Aggregate may be used in foundation only (except cased drilled shafts)

***When Type II Cement is used with Class C Concrete, the 7 day beam break requirement will be 550 psi; with Class A, 460 psi. min.

****Permission to use Grade 8 Aggregate must have prior approval of the

Engineer.

9. MIXING CONDITIONS

The concrete shall be mixed in quantities required for immediate use. Any concrete which is not in place within the limits outlined in specifications, Section 038000 "Concrete Structures", Article "Placing Concrete General", shall not be used. Retamping of concrete will not be permitted.

In threatening weather, which may result in conditions that will adversely affect quality of the concrete to be placed, the Engineer may order postponement of the work. Where work has been started and changes in weather conditions require protective measures, the Contractor shall furnish adequate shelter to protect the concrete against damage from rainfall, or from freezing temperatures. If necessary to continue operations during rainfall, the Contractor shall also provide protective coverings for the material stock piles. Aggregate stock piles need be covered only to the extent necessary to control the moisture conditions in the aggregates to adequately control the consistency of the concrete.

10. MIXING AND MIXING EQUIPMENT

(a) All equipment, tools, and machinery used for hauling materials and performing any part of the work shall be maintained in such condition to insure completion of the work under way without excessive delays for repairs or replacements.

The mixing shall be done in a batch mixer of approved type and size that will produce uniform

distribution of the material throughout the mass. Mixers may be either the revolving drum type or the revolving blade type, and shall be capable of producing concrete meeting the requirements of these specifications.

After all the ingredients are assembled in the drum, the mixing shall continue not less than 1 minute for mixers of one cubic yard or less capacity plus 15 seconds for each additional cubic yard or portion thereof.

The mixer shall operate at the speed and capacity designated by the Mixer Manufacturers Bureau of the Associated General Contractors of America. The mixer shall have a plate affixed showing the manufacturer's recommended operating data.

The absolute volume of the concrete batch shall not exceed the rated capacity of the mixer.

The entire contents of the drum shall be discharged before any materials are placed therein for the succeeding batch.

The first batch of concrete materials placed in the mixer for each placement shall contain an extra quantity of sand, cement, and water sufficient to coat the inside surface of the drum.

Upon the cessation of mixing for any considerable length of time, the mixer shall be thoroughly cleaned.

The concrete mixer shall be equipped with an automatic timing device which is put into operation when the skip is raised to its full height and dumping. This device shall lock the discharging mechanism and prevent emptying of the mixer until all the materials have been mixed together for the minimum time required, and it shall ring a bell after the specified time of mixing has elapsed.

The water tank shall be arranged so that the amount of water can be measured accurately, and when the tank starts to discharge, the inlet supply shall cut off automatically.

Whenever a concrete mixer is not adequate or suitable for the work, it shall be removed from the site upon a written order from the Engineer and a suitable mixer provided by the Contractor.

Pick-up and thro-over blades in the drum of the mixer which are worn down more than 10 percent in depth shall be repaired or replaced by new blades.

Improperly mixed concrete shall not be placed in the structure.

Job mix concrete shall be concrete mixed in an approved batch mixer in accordance with the requirements stated above, adjacent to the structure for which the concrete is being mixed, and moved to the placement site, in non-agitating equipment.

11. READY-MIX PLANTS

A. <u>General</u>. It shall be the Contractor's responsibility to furnish concrete meeting all requirement

of the governing specifications items and concrete not meeting the slump, workability and consistency requirements of the governing specification item shall not be placed in the structure or pavement.

Ready-Mixed Concrete shall be mixed and delivered by means of one of the following approved methods.

- (1) Mixed completely in a stationary mixer and transported to the point of delivery in a truck agitator or a truck mixer operating at agitator or a truck mixer operating at agitation speed. (Central-Mix Concrete)
- (2) Mixed complete in a truck mixer and transported to the placement site at mixing and/or agitating speed (Transit-Mix Concrete), subject to the following provisions.
- (a) Truck mixers will be permitted to transport concrete to the job site at mixing speed if equipped with double actuated counters which will separate revolutions at mixing speed from total revisions.
- (b) Truck mixers equipped with a single actuated counter counting total revolutions of the drum shall mix the concrete at the plant not less than 50 nor more than 70 revolutions at mixing speed, transport it to the job site at agitating speed and complete the required mixing before placing the concrete.
- (3) Mixed completely in a stationery mixer and transported to the job site in approved non- agitating trucks with special bodies. This method of transporting will be permitted for concrete pavement only.
- B. Equipment
- (1) <u>Batching Plant</u>. The batching plant shall be provided with adequate bins for batching all aggregates and materials required by the specifications.

Bulk cement shall be weighed on a scale separate from those used for other materials and in a hopper entirely free and independent of that used for weighing the aggregates.

- (2) Mixers and Agitators.
- (a) <u>General</u>: Mixers shall be of an approved stationary or truck-type capable of combining the ingredients into a thoroughly mixed and uniform mass.

Facilities shall be provided to permit ready access to the inside of the drum for inspection, cleaning and repair of blades.

Mixers and agitators shall be subject to daily examination for changes in condition due to accumulation of hardened concrete and/or wear of blades and any hardened concrete shall be removed before the mixer will be permitted to be used. Worn blades shall be repaired or replaced with new in accordance with the manufacturer's design and arrangement for that particular unit when any part or section is worn as much as 10 percent below the original height of the manufacturer's design.

(b) <u>Stationary Mixers</u>: These shall conform to the requirements of Article "Mixing

and Mixing Equipment". Truck mixers mounted on a stationary base will not be considered as a stationary mixer.

(c) <u>Truck Mixer</u>: In addition, truck mixers shall comply with the following requirements:

An engine in satisfactory working condition and capable of accurately growing the desired speed of rotation shall be mounted as an integral part of the mixing unit for the purpose of rotating the drum.

Truck mixers equipped with a transmission that will govern the speed of the drum within the specified rpm will not require a separate engine.

All truck mixers shall be equipped with actuated counters by which the proper number of revolutions of the drum as specified in "Part A" above may be readily verified. The counters shall be read and recorded at the start of mixing at mixing speeds.

Each until shall have adequate water supply and accurate metering or gauging devices for measuring the amount used.

- (d) <u>Agitators</u>: Concrete agitators shall be of the truck type, capable of maintaining a thoroughly mixed and uniform concrete mass and discharging it within the same degree of uniformity specified for mixers. Agitators shall comply with all of the requirements for truck mixers, except for the actual mixing requirements.
- C. Operation of Plant and Equipment

Delivery of ready-mixed concrete shall equal or exceed the rate approved by the Engineer for continuous placement. In all cases, the delivery of concrete to the placement site shall assure compliance with the time limits in the applicable specification for depositing successive batches in any monolithic unit. The Contractor shall satisfy the Engineer that adequate standby trucks are available.

A standard ticket system will be used for recording concrete batching, mixing and delivery date. Tickets will be delivered to the job inspector. Loads arriving without ticket and/or in unsatisfactory condition shall be not used.

When a stationary mixer is used for the entire mixing operation, the mixing time for one cubic yard of concrete shall be one minute plus 15 seconds for each additional cubic yard or portion thereof. This mixing time shall start when all cement, aggregates and initial water have entered the drum. The mixer shall be charged so that some of the mixing water will enter the drum in advance of the cement and aggregate. All of the mixing water shall be in the drum by the end of the first one-fourth of the specified mixing time. Water used to flush down the blades after charging shall be accurately measured and included in the quantity of mixing water. The introduction of the initial mixing water, except blade wash down water and that permitted in this Article, shall be prior to or simultaneous with the charging of the aggregates and cement.

The loading of truck mixers shall not exceed 63 percent of the total volume of the drum. When used as an agitator only, the loading shall not exceed 80 percent of the drum volume.

When Ready-Mix Concrete is used, additional mortar (one sack cement, three parts sand and sufficient water) shall be added to the batch to coat the drum of the mixer or agitator truck and this shall be required for every load of Class C concrete only and for the first batch from central mix plants. A portion of the mixing water, required by the batch design to produce the desired slump, may be withheld and added at the job site, but only with permission of the Engineer and under his supervision. When water is added under the above conditions, it shall be thoroughly mixed as specified below for water added at the job site.

Mixing speed shall be attained as soon as all ingredients are in the mixer, and each complete batch

(containing all the required ingredients) shall be mixed not less than 70 nor more than 100 revolutions of the drum at mixing speed except that when water is added at the job site, 25 revolutions (minimum) at mixing speed, will be required to uniformly disperse the additional water throughout the mix. Mixing speed shall be as designated by the manufacturer.

All revolutions after the prescribed mixing time shall be at agitating speed. The agitating speed shall be not less than one nor more than 5 rpm. The drum shall be kept in continuous motion from the time mixing is started until the discharge is completed.

12. PLACING, CURING AND FINISHING

The placing of concrete, including construction of forms and falsework, curing and finishing, shall be in accordance with the specification, Section 038000 "Concrete Structures".

13. MEASUREMENT

The quantities of concrete of the various classifications which will constitute the completed and accepted structure of structures in place will be measured by the cubic yard, each, square foot, square yard, or linear foot as the case may be. Measurement will be as indicated within the Proposal; or considered subsidiary to the project.

14. PAYMENT

The unit price bid for the various classifications of concrete shown shall be compensation for finishing, hauling, and mixing all concrete material; placing, curing and furnishing all concrete; all grouting and pointing; furnishing and placing drains; furnishing and placing metal flashing strips; furnishing and placing expansion joint material required by this specification; and for all forms and falsework, labor, tools, equipment, and incidentals necessary to complete the work.

RADIO COMMUNICATIONS SYSTEM REQUIREMENTS

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1. Project Overview

1.1 Introduction

Gonzales County, Texas requests proposals from qualified contractors to provide a Project 25 (P25) Phase 2compliant trunked radio system to support the following agencies within the County:

- Gonzales County Sheriff
- Gonzales County Fire
- Gonzales County EMS
- Gonzales Co. Emerg. Mngt.
- Gonzales Co. Commissioners
- Gonzales Co. Attorney's Office
- Gonzales Police

- Gonzales Fire
- Nixon Police Dept.
- Waelder Police Dept.
- Waelder Fire Dept.
- City of Smiley Marshal's Office
- Belmont Volunteer Fire Dept.
- Ottine Volunteer Fire Dept.

The County's primary goals for this project are to:

- 1. Deploy a P25 Phase 2 standards-based 700/800 MHz trunked radio system to improve countywide communications coverage and message capacity.
- 2. Install additional repeater site locations to expand reliable coverage, particularly for handheld radios.
- 3. Deploy a reliable IP-based backhaul network to integrate the various sites and dispatch locations

The project includes the following major components:

- 1. Reuse of existing, and purchase of new towers, shelters, and emergency backup generators
- 2. Trunked radio network with geographically-redundant central control systems
- 3. Immediate backup power systems
- 4. Interface with, or replacement of existing dispatch workstation equipment
- 5. Redundant IP-based microwave backhaul (fiber may also be proposed)
- 6. Radio and backhaul network monitored and managed as a service¹

Contractors shall utilize existing towers, shelters, and backup generator systems at some existing tower sites. Contractor shall engineer, furnish, and install towers, shelter and generators as specified new sites herein.

This project is primarily funded through a Texas General Land Office (GLO) grant, as well as local funds. The GLO grant is part of larger block grant to the State from the U.S. Department of Housing and Urban Development's Community Development Block Grant Mitigation (CDBG-MIT) program, related to disaster relief and resiliency improvements following Hurricane Harvey (2017).

This Grant specified four radio site locations. A summary of the shelter, tower and generator facility requirements are show in Table 1 below:

¹ Some network alarm monitoring and notifications shall be available and provided to County staff.

Site Name	Facilities Required
BELMONT TOWER	Greenfield site: New tower, shelter & generator
GONZALES TOWER	Existing site: New tower; reuse shelter & generator
SMILEY TOWER	Existing site: Reuse shelter, tower & generator
WAELDER TOWER	Greenfield site: New tower, shelter & generator

 Table 1 – Summary of Required Facilities

1.2 Gonzales County and Existing Radio Systems

Gonzales County is located in south central Texas and is bordered by the counties of Caldwell, Fayette, Lavaca, De Witt, Karnes, Wilson and Guadalupe. It is approximately 62 miles east of the city of San Antonio and 55 miles south of Austin. Major highways include I-10 in the north (East-to-West), US Highway 90A and State Highways 80, 87, 97 and 183.

The County population is currently 19,641 and covers an area of 1067 square miles. The largest city is Gonzales with a population of 7,165 persons with an area of 6.1 square miles.

Currently, the County and each of the cities are responsible for managing their own law enforcement, fire and emergency medical radio systems. All radio installations and maintenance are provided by Victoria Communication Service (VCS) of Victoria, Texas.

The Gonzales Sheriff's Office operates primarily on a regional digital trunked radio system through a lease with the Lower Colorado River Authority (LCRA). Approximately four LCRA repeater sites provide direct service to the County, as well as others associated with this system outside the County. However, the Sheriff also maintains VHF conventional repeaters in the north and south county.

City of Gonzales Police Department currently operates on the LCRA network as well.

Bailiffs operate on a single direct-mode frequency for voice communications. Waelder PD operates their own repeater for law and fire communications from a single repeater site.

All fire agencies in the County operate over repeaters in the north south county. EMS voice and related EMS and Fire paging operate from separate repeaters in east and west county.

Separate single-site radio repeaters also exist to support the County Commissioners and the Gonzales Independent School District.

There are six fire departments within the County, three of which are volunteer, with one having both full-time and volunteer staff.

Law enforcement, Fire and EMS dispatch (as well as paging) are performed by Gonzales County, who is also the primary PSAP for the county. The County has multiple dispatch staff positions, and two radio dispatch positions.

1.3 Project Summary

The Contractor shall be responsible for providing the following project components:

1. Site survey of all equipment locations

- 2. System design and engineering
- 3. Project management
- 4. Obtaining the required radio spectrum (includes coordination and FCC applications)
- 5. Factory Acceptance Testing (local or remote)
- 6. Furnishing and installing system equipment and ancillary equipment
- 7. Configuration and programming
- 8. Training
- 9. Acceptance testing, including coverage testing
- 10. Cutover planning and execution
- 11. Warranty and maintenance support
- 12. Decommissioning/removal of legacy communications system and ancillary devices not required for the new system

The Contractor shall be responsible for furnishing an integrated infrastructure that includes:

- 1. Radio system infrastructure
- 2. Digital microwave or fiber backhaul network
- 3. Radio dispatch workstations
- 4. Infrastructure facilities (e.g., towers, shelters, generators, fencing, etc.)
- 5. County notifications from Network Management System
- 6. Subscriber radio equipment
- 7. Other requirements are contained herein
- 1.4 Proposals Desired

The County desires a complete turnkey solution addressing all project systems, subsystems, and components for the primary radio communications system. This system shall provide public safety grade communications capabilities across the County, allowing agencies within the County to safely, effectively, and efficiently carry out their duties.

Proposed solutions include outright purchase and direct ownership, or leasing of all or a portion of an existing network. If a proposed leased network cannot provide the level of service required, the County would work with the leased network entity to expand that network to better accommodate the County's requirements. The County would retain ownership of the portions it provided.

The County seeks to obtain proposals for a Project 25 Phase 2 trunked radio system within the County. This system may be configured as simulcast, multicast, or some combination thereof. 700/800 MHz public safety spectrum is highly preferred due to improved co-channel protection and lower noise floor levels.

The County has proposed communications tower sites described in Appendix C that have been found provide significant coverage of the County. These site locations have also been specified in the Grant Award. The County's Service Area is described in Appendix E.

1.4.1 Standards and Guidelines

- A. The equipment and accessories shall be designed, manufactured, and tested in accordance with applicable National Executive Orders, and applicable standards from the following organizations, including all amendments in effect at the time of purchase order placement.
- B. These Orders, codes and standards set forth minimum requirements necessary to assure security and satisfactory performance of the Contractor's equipment. Other internationally recognized codes and standards will be acceptable provided they meet or exceed the requirements of the listed codes and standards.
- C. If different from the project list, the Contractor shall submit for Owner's approval, details of the codes and standards, which Contractor proposes to use. Contractor shall demonstrate to the satisfaction of Owner that these codes and standards meet or exceed the requirements of the codes and standards listed.
- D. In the event of any conflict between codes, standards, and this specification; the Contractor shall refer the conflict to Purchaser for written resolution before start of design.
- E. Contractor shall provide a list of codes and standards used for the manufacture of Contractor's product if requested.
- F. All materials and equipment supplied under this specification shall comply with all applicable Orders, regulations and standard listed below, and all Federal, State and Local Statutes. All electrical material and equipment shall be listed and/or labeled by OSHA through a National Recognized Testing Laboratory (NRTL) and approved by the authority having jurisdiction.
- G. ANSI American National Standards Institute
 - 1. ANSI T1.101 Synchronization Interface Standard
 - 2. ANSI T1.102 Digital Hierarchy Electrical Interfaces
 - 3. ANSI T1.105 Synchronous Optical Network (SONET) Basic Description including Multiplex Structure, Rates and Formats
 - 4. ANSI T1.106 Digital Hierarchy Optical Interface Specifications (Single Mode)
 - 5. ANSI T1.107 Digital Hierarchy Format Specifications
 - ANSI T1.117 Digital Hierarchy Optical Interface Specifications (SONET) (Single Mode Short Reach)
 - 7. ANSI T1.119 Synchronous Optical Network (SONET) Operations, Administration, Maintenance and Provisioning (OAM&P) Communications
 - 8. ANSI/ATIS- 0600315.2007- Voltage Levels for DC-Powered Equipment Used in the Telecommunications Environment
 - 9. ANSI/ATIS-0600313.2013, Electrical Protection For Telecommunications Central Offices And Similar Type Facilities, Section 10.5
 - 10. ATIS-0600334.2013, Electrical Protection of Communications Towers and Associated Structures, Section 6.6

- H. Federal Communications Commission:
 - 1. 47 CFR 1.1310 Radiofrequency Radiation Exposure Limits
 - 2. FCC Rules 47 CFR Part 101
 - 3. FCC Rules 47 CFR Part 90
 - 4. FCC Rules 47 CFR Part 22
 - 5. FCC Rules 47 CFR Part 15
 - 6. FCC Rules 47 CFR Part 2
- I. IEEE Institute of Electrical and Electronics Engineers:
 - 1. IEEE 802.3 10/100/1000bT Ethernet interfaces
 - 2. IEEE 1692-2011, IEEE Guide for the Protection of Communication Installations from Lightning Effects, Section 8.7
- J. ITU International Telecommunication Union:
 - 1. IEEE 802.3 10/100/1000bT Ethernet interfaces
- K. ITU International Telecommunication Union:
 - 1. ITU G. 8031 Ethernet Linear Protection Switching
 - 2. ITU G. 8032 Ethernet Ring Protection
- L. Telcordia Technologies (formerly Bellcore):
 - 1. GR-499-CORE Transport Systems Generic Requirements (TSGR) Common Requirements, Issue 4, November 2009
 - 2. TR-TSY-000752 Microwave Digital Radio Systems Criteria
 - 3. GR-474-CORE Network Maintenance: Alarm and Control for Network Elements, Issue 2, May 2011
 - 4. GR-63 –Core Network Equipment-Building System (NEBS) Requirements: Physical Protection, Issue 3 March 2006
 - 5. SR-332 Special Report, Reliability Prediction Procedure for Electronic Equipment, Issue 2, September 2006
 - 6. GR-253-CORE "Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria," Issue 2, December 1995
 - 7. GR-496-CORE SONET Add-Drop Multiplexer (SONET ADM) Generic Criteria, Issue 2, August 2007
 - 8. GR-1089-CORE, Electromagnetic Compatibility and Electrical Safety Generic Criteria for Network Telecommunication Equipment
- M. Motorola *Standards and Guidelines for Communication Sites* ("R56"), April 2017 P/N 68P81089E50-C.

- N. TIA/TSB-88-D Wireless Communications Systems, Performance In Noise- And Interference-Limited Situations
 - 1. Part 1: Recommended Methods for Technology Independent Performance Modeling
 - 2. Part 2: Propagation and Noise
 - 3. Part 3: Performance Verification
- O. Codes and Standards of good practice issued by the following organizations:
 - 1. National Electric Manufacturers Association (NEMA)
 - 2. National Fire Protection Association (NFPA)
 - 3. Occupational Safety Health Administration (OSHA)
 - 4. Underwriters Laboratories (UL)
 - 5. BICSI (formerly known as Building Industry Consulting Service International)
 - 1.4.1.1 Project 25

All radio transceiver products supplied under this project shall comply with all applicable standards that meet or exceed the Class A performance unless specified elsewhere in this document.

- A. ANSI/TIA-603-E Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
- B. ANSI/TIA-102.CAAB-C, Project 25 Land Mobile Radio Transceiver Recommendations, C4FM/CQPSK Modulation
- C. ANSI/TIA-102.CCBA, Project 25 Phase 2 Land Mobile Radio Transceiver Performance Recommendations, H-CPM/H-DQPSK Modulation (if applicable)
 - 1.4.2 Frequency Coordination and Licensing
- A. Contractor shall be responsible for all frequency coordination and licensing associated with the land mobile and microwave radio system. This includes payment of all coordination costs and anticipated fees. The Contractor shall also prepare and complete any additional filing forms, showings, etc. needed for the County's FCC applications and licenses as well as FAA certifications.
- B. The new system shall primarily utilize Region 53 700 MHz spectrum, followed by Region 53 800 MHz NPSPAC spectrum. Other 800 MHz Public Safety or General Category spectrum may be used when the previous is unavailable.
- C. Contractor is encouraged to use spectrum from one or the other band (700 MHz or 800 MHz) at a given site to simplify antenna systems and any future DAS system deployment that may occur in the future.

1.4.3 Project Management

- A. Contractor shall describe the methodology that will be used to successfully manage and implement the proposed system. An organizational table or chart shall be provided showing the proposed project team, responsibilities, and lines of authority. The County reserves the right to interview and approve the proposed personnel before contract award. Team members in this approved table or chart cannot be replaced or superseded without County approval.
- B. Contractor shall provide a recommended deliverables-based Project Schedule from Notice to Proceed (NTP) through completion of all work on the Project. Specifics of project schedule will be negotiated

with, and prepared by the selected Contractor. Contractor shall update the project schedule every two weeks and submit the updated project schedule to the County project manager for review.

- C. Any special provision not addressed in this document that threatens or causes an engineering, installation or commissioning schedule delay, or need for additional compensation shall be brought to the County's attention as soon as possible.
- D. Contractor shall provide project status reports twice monthly.

1.4.3.1 Project Meetings

- A. A project kick-off meeting shall be scheduled prior to the beginning of the project. Responsible representatives of the Contractor's contract negotiation, project management and implementation teams must be present. Continuity of information exchange between the Contractor's proposal, negotiation and implementation teams is essential.
- B. Project status meetings shall be scheduled following the initial kick-off meeting and shall be held on a recurring basis. The meeting frequency shall be determined by need, but shall be no less than once per month, on-site at the County headquarters or other facilities within the County's service area. Sufficient and appropriate Contractor staff must be present to address and resolve all engineering, installation, and commissioning needs.
- C. The Contractor shall be responsible for scheduling the meetings as well as preparing meeting agendas and minutes.

1.4.4 Site Surveys

- A. The Contractor shall conduct thorough site surveys with County staff prior to submitting Preliminary Design documents. Surveys shall include all sites where fixed equipment installations are anticipated, including control station and dispatch locations.
- B. The purpose of the survey is to:
 - 1. Document existing site conditions and all impacts to the future system design, and eliminate unforeseen conditions
 - 2. Collect all necessary physical site information
 - 3. Establish all necessary information, such as antenna, transmission line and equipment placement, microwave/leased line interfaces and utility and generator power systems
 - 4. Establish site lease and/or owner requirements and limitations²
 - 5. Inspect and document condition of existing grounding systems
- C. Significant deficiencies will be detailed in a formal letter to the County, and the Contractor shall recommend specific actions required by the County and/or Contractor.
 - 1.4.5 Quality Assurance and Control (QA/QC)

² Includes contacting site managers or owners if necessary.
The Contractor shall utilize a Quality Assurance / Quality Control (QA/QC) program for all aspects of the project.

For purposes of continuity & quality control, the Contractor shall maintain the same installation, oversight and commissioning crew(s) through Acceptance Testing. The County reserves the right to dismiss any personnel it deems unqualified to perform the work.

1.4.6 Project Submittals

- A. Key project deliverables and submittals are outlined below and are described in further detail throughout this RFP.
- B. All project submittals shall be subject to review and approval by the County Project Team and its Engineer or representative. Submittals are subject to approval prior to milestone payments.

1.4.7 Preliminary System Design

- A. The Contractor shall submit the Preliminary Design package 90 days after contract award. It shall include the following:
 - 1. Detailed project schedule
 - 2. Initial Site Deficiency Report (tower, shelter, power and/or access issues from Site Survey)
 - 3. System block diagrams
 - 4. Coverage maps & initial path calculations
 - 5. Equipment room plan view drawings (affected space)
 - 6. Preliminary equipment rack/cabinet elevation drawings
 - 7. Tower profile drawings indicating antenna mounting locations
 - 8. Detailed list of materials for each site
 - 9. Draft Acceptance Test Plan (ATP)

1.4.8 Final System Design

- A. The Contractor shall submit the Final Design package 150 days after contract award, which shall include the following:
 - 1. Any updates to previously submitted design information
 - 2. Cutover plan (transition from existing to new system)
 - 3. Coverage prediction maps (updated, as needed)
 - 4. Final path calculation sheets and design
 - 5. Site installation drawings (plan view of racks, transmission lines and tower)
 - 6. Final rack elevation views
 - 7. Information needed for structural analyses and results
 - 8. Final Acceptance Test Plan (ATP)
 - 9. Draft Coverage Acceptance Test Plan (CATP)

- 10. Complete Bill of Materials (BOM)
 - Software
 - Kit descriptions, sufficient to establish installation equipment and tool kits
- B. Prediction maps shall show mobile radio coverage and shall be for the worst-case path (uplink or downlink) specific to this system design. Once accepted, these maps will be used for the CATP.
- C. Provide all information required to configure subscriber radios at least 90 days prior to the start fixed radio infrastructure installations if the owner is responsible for programming some or all of the radio fleet.
 - 1.4.9 As-Built Documentation
- A. The Contractor shall submit three printed sets of post-deployment, as-built documents that include the following:
 - 1. Documentation index
 - 2. Field test reports
 - 3. Coverage test reports
 - 4. Warranty documentation
 - 5. Detailed list of materials for each site
 - 6. As-built system block diagrams
 - 7. As-built site drawings, including all cabling and terminations
 - 8. Site layout drawings, as appropriate
 - 9. Tower drawings showing any new installations
- B. One electronic copy of the documents above shall be provided on removable USB media in Adobe PDF format. This media shall also include a separate directory for original files (source spreadsheets, drawings, documents, etc.).

1.4.10 Project Scope and Cost Control

The Contractor's Site Survey is intended to eliminate unforeseen conditions that may be present at the various work sites. Additionally, it is expected that experienced Bidders will have anticipated common project challenges while preparing their original proposals.

1.4.11 Project Schedule

The system and related subscribers must be fully accepted by TBD.

1.4.12 Clearances

When required, Contractor shall be responsible for obtaining all required permits for the project, scheduling any required inspections, and resolving compliance issues associated with equipment and services provided under this project. This includes any supporting documentation, drawings and permitting fees.

2. Instructions to Respondents

2.1 Pre-Bid Conference

A <u>mandatory</u> pre-bid conference will be held at the following location, date, and time to answer any questions that prospective bidders may have regarding this RFP:

Date & Time: July 16, 2024 at 11:00 a.m.

Location: Gonzales Sheriff's Office Tower Site, 202 FM 532, Gonzales Texas

2.2 Bid Schedule

Event	Target Date
RFP Issued	June 20, 2024
Pre-Bid Conference	July 16, 2024
Final Deadline for Questions	August 19, 2024
Responses to Questions	August 30, 2024
Bids Due	September 12, 2024

Table 1 – Bid Schedule

2.3 Bid Format

- A. Bid organization shall correspond with the letter designations in Appendix E. Other material must be placed at the rear of the submittal.
- B. Six printed copies, one unbound printed copy, and an electronic version of the bid on USB media shall be submitted.

2.3.1 Cost Proposal

- A. Bidders shall provide total proposal price using the group categories specified in Appendix B.
- B. Detailed price breakdowns as described in Appendix G are required with submittals.
- C. Appendix G shall be submitted in a separate, sealed envelope.

2.4 Proposal Evaluation

- A. Contract award shall not be based solely on price, but on a combination of factors as determined to be in the best interest of the County.
- B. Once the proposals are received, the Gonzales County Commissioners Court may require clarification and additional information. Bidders may be asked to make a general presentation of their plan to the Gonzales County Commissioners Court and/or attend an interview. The Gonzales County Commissioners the right to have discussions with any or all of the Bidders to fully understand each proposal.
- C. If a proposal is incomplete, and/or is deemed non-responsive on a number of substantial system or proposal requirements, it will be rejected by the County, and will not be considered by the evaluation committee.
- 2.5 Proposal Evaluation Criteria
 - A. The proposals will be evaluated according to the criteria listed and described below. The order of the criteria listed below does not reflect a hierarchy for the final selection.

Quality of Proposal 5 points

Includes overall presentation, consistency with the objectives of the proposal, demonstrating an understanding of the project, and fulfilling the proposal requirements in this RFP.

The Operation and Design of the Dispatch Workstation Systems in Meeting the Functional and Technical Requirements of the Users 10 points

The functional and technical requirements are described in this document. This includes the dispatch workstations and associated software and hardware (backup control stations, logging recorder). This may also include the equipment's technical capabilities, warranty, flexibility for use with voice and messaging (if applicable); placement, size and design of the most commonly used controls; display readability in darkness and sunlight, etc.

Network's Ability in Meeting the Functional and Technical Requirements 30 points

Includes proposed coverage performance and related responsibility commitment, the availability of compatible and competitive subscriber equipment in the future, product capability (features) and flexibility, capacity, system management, upgradability to anticipated regulatory requirements and/or technical advancements, system design, user interface, system and system component reliability, backup and recovery, network monitoring capabilities, ease of reconfiguration, programming software capability and usability, and the ability to be upgraded with new features without major hardware replacement.

Experience with Similar Projects 10 points

Contractor's references and experience with providing communications systems of similar size, design and complexity. Consideration will also include subcontractor references and experience.

Maintenance and Support, Including Past Performance (if applicable) 20 points

This includes the Contractor's service, support and personnel qualifications and training; network warranty; ability to meet the specified response times; current and future service depot or shop locations (for the life of the network), support locations, availability and overall level of support offering. Past performance will be considered (if recently under contract by the County), as well as that proposed going forward.

Cost Proposal 20 points

Evaluation of the cost proposal will be based on:

- One-time costs (e.g., of engineering services and operationally-equivalent, warranted systems)
- Recurring costs (present-value of multi-year pricing, e.g., ongoing support and licensing, software updates and upgrades, etc.)

Proposed Implementation and Payment Schedule & Contract Terms 5 points

This is based on the Contractor's ability to complete the project in a reasonable time period, level of commitment/responsibility for meeting the project completion date as shown in their Implementation Schedule, and negotiated contract terms (those outside the required contract).

2.6 Contract Award

- A. A Best and Final Offer (BAFO) process may be employed when:
 - No single response addresses all the specifications
 - Costs proposed from all respondents exceeds expected limits
 - The scores of two or more proposals are very close after the evaluation process

- All respondents submitted responses that are deficient in one or more area
- B. At the sole discretion of the County, Bidders may also be asked to provide a sample of proposed equipment and/or systems to demonstrate capabilities and features. This request may include, but not be limited to subscriber radio equipment and system components.

3. Radio Communications System Requirements

3.1 Overview

- A. Contractor shall provide for a complete Project 25, Phase 2 Time Division Multiple Access (TDMA) trunked communications system utilizing 700 and/or 800 MHz frequency pairs. System may be configured for simulcast or multicast, or a combination.
- B. The Contractor shall be responsible for working with Region 53 to assign and license the required frequency pairs. The Contractor shall complete all documents and filings requited by Region 53 on behalf of the County. County will assist when required.
- C. Existing dispatch workstations specified herein shall be replaced with new P25 IP-based dispatch workstations and gateways designed to support all of the features of the new P25 radio system while retaining any required legacy capabilities or features and interoperability not supported by the new radio system.
- D. The system shall provide a backhaul network using microwave, fiber or a combination of the two. Capacity and availability requirements are described in Section 4.
- E. The radio system shall provide the degree of radio coverage and voice quality described in Section 3.4 within the County limits (see Appendix D). Desired coverage outside the County is described in Section 3.4.1.
- F. The replacement architecture shall conform to the objectives and user requirements outlined in the current P25 Phase II standards (P25 TIA/EIA-102) specifications in terms of digital modulation, spectral efficiency, enhanced audio quality, conventional and trunking modes, ID methodology, and interoperability with equipment from other manufacturers.
- G. The primary proposal must be compliant with P25 trunking standards and must not contain any trunking messages and/or procedures that are proprietary for the baseline system operation. However, the County may accept Contractor-specific solutions for those features currently outside of the P25 scope in order to obtain a full featured communications network as long as any incompatibilities are identified and accepted.
- H. Contractors agree to work with the County and with other industry contractors to facilitate P25 interoperability for those features that may initially be offered as proprietary solutions.
- 3.2 Redundancy and Survivability
 - A. A network topology utilizing fault tolerance shall be provided to the greatest extent possible through a distributed and/or redundant architecture, with and efforts towards eliminating the potential for single point failures.
 - B. Redundancy is required for system elements whose malfunctioning operation would result in a major system failure as defined herein.
 - C. Such elements include, but are not limited to the following:
 - 1. System control equipment and network elements
 - 2. Backhaul network
 - 3. AC and/or DC Power systems
 - 4. Simulcast and comparator control equipment (for simulcast designs)

- D. The proposed radio system shall include several modes of degraded operation or failure modes. The system shall be capable of automatic activation of these modes in the event of a malfunction or loss.
- E. The Contractor's network management system (NMS) shall detect and report all service-affecting failures or degraded conditions in real time to system administrators. At a minimum, the following failures should invoke the activation of a failure mode, including loss of:
 - 1. A single channel (hardware or interfering signal)
 - 2. Multiple channels (hardware or interfering signals)
 - 3. Control channel(s)
 - 4. Site controller(s)
 - 5. One site in a simulcast cell
 - 6. System controller(s)
 - 7. Backhaul or network connectivity at one or more system sites
 - 8. Other failures that would impair system performance
- 3.3 Radio System Capacity

3.3.1 Grade of Service (GoS)

- A. The County desires a radio network that will provide a Grade of Service (GoS) of 1% (P.01) or better. Respondents shall provide their calculated GoS using their customer-derived call parameters. Respondents shall identify the parameters utilized in their calculation, including:
 - 1. Number of concurrent users
 - 2. No. of messages per user/per hour
 - 3. Message duration
 - 4. Average delay of delayed calls
- B. If the network supports other non-county users, provide the assumptions above for these users.
 - 3.3.2 Expansion

The radio system and subsystems shall be expandable by adding additional hardware and/or software to increase coverage, capacity, or capability.

3.4 Radio System Coverage

3.4.1 Coverage Area Requirements

The County has selected the radio sites shown Appendix B, as they provide coverage to a significant portion of the Gonzales County, which is the County's Service Area. The Contractor may choose to utilize these sites, or propose others they believe provide similar or improved coverage based on their experience, knowledge, and capabilities of their proposed technology. The County's outdoor Service Area is shown in the map in Appendix D and is also available electronically in (ESRI Shapefile format). This link is provided in Appendix D.

The County also desires coverage of several areas outside of its Service Area (i.e. outside of Gonzales County), as listed below. Coverage would include the listed areas and the most direct travel paths to/from the County:

- Victoria
- Seguin
- Austin
- San Antonio

- San Marcos
- I-10 in Guadalupe County
- US 90 Alt between Belmont and Seguin
- US 183 South towards Cuero

Provide coverage maps as described below showing the proposed coverage of these areas for mobile radios and belt-level portable radios.

3.4.2 Coverage Responsibility

- A. The Bidder's initial coverage prediction maps will be evaluated as part of proposal review.
- B. The Bidder/Contractor shall be responsible for meeting a communications reliability and voice quality level specified herein by the sites the Bidder/Contractor proposes, in digital mode. Once accepted by the County, the Bidder/Contractor's proposed coverage prediction maps will become the contractual coverage requirement unless approved changes occur during Final Design Review (this does not apply to coverage prediction maps for areas outside of the main Service Area in Gonzales County).
- C. Coverage compliance within the County's primary Service Area (Gonzales County) shall be verified by the Contractor through Bit Error Rate (BER) and signal strength measurements for overall outdoor coverage. The County shall witness testing and may verify the results.
- D. The Contractor shall submit a detailed draft Coverage Acceptance Test Plan for review by the County 90 days after contract award. The Final CATP shall be negotiated by the County and the Contractor based on the initial draft plan.

3.4.3 Basis of Voice Coverage Design

- A. The voice radio coverage goal shall be based on the following performance criteria:
 - 1. Delivered Audio Quality (DAQ) of 3.4³
 - 2. Accommodate vehicles traveling at speeds up to 75 miles per hour
- B. The following equipment configuration shall be assumed:
 - 1. Vehicle-mounted antenna with gain as specified herein, at 6 feet above ground level (AGL); and
 - 2. Portable radio transmitting and receiving at the user's waist level with a half-wave antenna at 3 feet above ground level; Contractors shall include a –12.4 dB median antenna degradation value (body plus antenna loss value) in predictions and design.
- C. Coverage predictions and field verification shall be based on methods described in TIA TSB-88.1-D and TIA TSB-88.3-D and agreed to by the County.

³ DAQ criterion of 3.0 is described in TIA TSB-88.1-D as "Speech understandable with repetition only rarely needed.

Some Noise/Distortion". These criteria conform to the approach described in the most recent version of Wireless Communications Systems – Performance in Noise and Interference – Limited Situations Part 1: Recommended Methods for Technology-Independent Performance Modeling, TIA-TSB-88.1-D.

3.4.4 Required Coverage

- A. Within the County limits (the area shown in the map in Appendix D, the proposed radio system shall provide balanced portable radio round-trip coverage (talk-out and talk-in), in of the following areas:
 - 1. On-street (outdoor belt level portable radio coverage)
 - a. Coverage provided by the Respondent's proposed system shall be defined as all areas within the County's Service area that meet or exceed the downlink and uplink signal power required for DAQ 3.4 with 95% tile reliability⁴ (i.e. a 95% probability of achieving the CPC target value), as per TSB-88 recommendations for public safety systems. Coverage design efforts shall adhere to TSB-88 recommendations where applicable, and all components in the calculations of the Channel Performance Criteria (CPC) to meet the required design target shall be specified and supplied by the Bidder.
 - b. Coverage design, implementation, and testing for the system shall adhere to the latest revision of TIA[®] Telecommunications Systems Bulletin 88 (TSB-88)
 - C. TSB-88 defines the digital Bit Error Rate (BER) that provides a minimum DAQ 3.4 audio signal for both outbound (talk-out) and inbound (talk-in) communications for different system technologies. Bidder shall base coverage maps on the downlink and uplink signal power levels required for DAQ 3.4 for the proposed system technology on the vales shown in TSB-88.⁵
 - d. The Contractor shall test radio coverage based on Downlink (outbound) Signal Power, BER (outbound) and subjective DAQ both inbound and outbound (round trip).
 - 3.4.5 Radio Coverage Model and Maps
- A. Respondents shall employ a suitable coverage prediction model using appropriate terrain and land use land cover data for the environment and shall include a detailed description of the propagation models used and the assumptions made in preparation of the maps. Respondents shall provide a concise description of the methodology and software used to calculate predicted radio coverage within their proposals.
- B. Respondents shall submit both talk-out and talk-in system composite radio coverage prediction maps for all proposed design configurations. The maps shall be clearly labeled and shall show system gain calculations for each of the following:
 - 1. Mobile radios Standard dash or trunk mount with a unity gain antenna mounted in the center of the roof:
 - a. Talk-out to a mobile radio

⁴ Tile Reliability: The tile reliability is the probability that the received local median signal strength predicted at any location with a given tile equals or exceeds the desired CPC margin. See §5.3.4.of TSB-88.1-D

⁵ TSB-88-1-D, Table A.1.

- b. Talk-in from a mobile radio
- 2. Portable radios Standard portable radio outdoors:
 - a. Talk-out to a portable radio on hip with speaker mic
 - b. Talk-in from a portable radio on hip with speaker mic
- 3. Portable radios Standard portable inside an 12db loss building
 - a. Talk-out to a portable radio on hip with speaker mic
 - b. Talk-in from a portable radio on hip with speaker mic
- C. Radio coverage shall be depicted using a light transparent color or cross-hatching for those areas that meet or exceed the minimum coverage threshold. The background map layer shall show the geographic boundary of the County, cities, and towns, as well as major roads.
- All maps must clearly delineate the difference between areas predicted to be equal to or greater than DAQ
 3.4 equivalent coverage and areas that do not meet coverage requirements. Respondents shall include the effects of simulcast Time Delay Interference (TDI) in the coverage maps (if applicable).
- E. Respondents shall provide a summary table showing predicted percentage of service area coverage similar to the sample shown below (where XX indicates the percentage coverage of the Gonzales County primary service area).

Coverage Scenario	Mobile	Portable in Street	Portable in 12 dB buildings
Talk-Out @ DAQ 3.4	XX %	XX %	XX %
Talk-In @ DAQ 3.4	XX %	XX %	XX %

Table 2 – Radio Coverage Prediction Summary

- F. Radio coverage areas depicted on maps shall not be limited by the County boundaries. Maps shall detail predicted radio coverage outside of the County boundaries, as well.
- G. Radio coverage maps shall be provided in the proposal in two formats:
 - 1. 11"x17" (minimum) full color hardcopy format
 - 2. In PDF file format and USB flash drive
- H. Respondents shall use 10-meter U.S. Geologic Survey (USGS), NAD-83 terrain elevation data and USGS Land Use Land Cover data for radio coverage predications. Provide a table showing the Land Use-Land Clutter (LULC) categories and the attenuation assumed for each category as part of the coverage map exhibits.
 - 3.4.6 Link Budgets
- I. Respondents shall provide detailed downlink and uplink link budgets, clearly defining the following minimum information, relating to each map and each site:
 - 1. Propagation model

- 2. Simulcast timing parameters (if applicable)
- 3. Design target
- 4. Acceptance Test Plan target
- 5. Faded performance criteria
- 6. Inferred noise floor
- 7. Base station / repeater Radio Frequency (RF) power output
- 8. Antenna gain (transmit and receive)
- 9. Antenna down tilt (if applicable)
- 10. Transmit effective radiated power (ERP)
- 11. Receiver sensitivity
- 12. Tower top amplifier net gain
- 13. Total antenna system gains, or losses
- 14. Antenna height
- 15. Mobile and portable antenna height for talk-out and talk-in
- 16. Mobile and portable RF output power
- 17. The configuration of field units (for example talk-out to portable inside 12 dB loss buildings)
- 3.5 Project 25 (P25) System Feature Requirements
 - A. The system should support the following call types at a minimum:
 - 1. Talkgroup calls All radios hear all calls on same talkgroup ID.
 - 2. Individual calls Unit-to-unit, and between workstations and units (confirmed and unconfirmed); workstations shall be individually addressable by the call initiator.
 - Emergency calls Calls that are steered to a separate talkgroup/channel upon emergency activation. Emergency Call access, monitoring and notification shall be directed to specific workstation positions.
 - 4. All Call All units (all sites) hear a broadcast call initiated by a dispatch workstation or designated subscriber regardless of subscriber channel selection.
 - B. The system should support the following other features at a minimum:
 - 1. Talkpath assignment The network should include automatic talkpath assignment in accordance with priority levels in a method that is transparent to end-users.
 - 2. Site hand-off/roaming The network shall allow users to roam across the shared regional network without the need for user intervention.

- 3. Site Registration/Deregistration The subscriber should automatically register and deregister with sites without user intervention to maintain the required Delivered Audio Quality (DAQ) level. Registration/deregistration shall occur during subscriber power-up, roaming and power-down.
- Talkgroup Registration/Deregistration The network shall only route talkgroup, individual, or data calls to site where at least one target radio is operating to minimize transmission of unnecessary traffic (multicast or multi-cell simulcast system only).
- 5. Out of range indication The user device should provide an option to audibly and visually indicate that the unit is out of range of the system.
- 6. Talkgroup priority scanning This scanning functionality should be configurable to minimize traffic loading impacts so as not to affect the Grade of Service.
- 7. Late-Entry The system shall provide late entry into an ongoing voice call (and provide associated unit-ID data) during scan, roaming or manual channel changes.
- Presence Indication System shall report whether a given radio is powered on and in range of the radio system on dispatch workstations (preferred) and Network Management Workstations (NMW).
- 9. Call-Alert Acknowledgement Provide feedback to dispatch workstations on whether a radio, or groups of radios, received a given message.
- 10. Avoidance of sites without wide-area connectivity Subscribers shall automatically avoid sites that have lost wide-area connectivity, when they are in range of other sites. This functionality shall be configurable on a per-talkgroup basis.
- 11. Smart site hand-off/roaming Roaming algorithms shall direct subscribers to the best site through various methods, including strongest signal (as opposed to minimum-acceptable), biterror rate (BER), adjacent site lists, etc. Bidder shall describe what parameters are considered by the subscribers and/or network.
- 12. Site Access Control Lists It shall be possible for system administrators to configure the network and/or subscriber radios to prefer, avoid or restrict subscriber access to certain sites based on a subscriber ID and talkgroup for capacity control reasons.
- 13. Radio system access security Bidder shall describe their methodology to restrict unauthorized radio access to the network, and how this is administered. This would include radio access keys or codes, link-level encryption, etc.
- 14. Voice Message Security The network shall support end-to-end digital voice AES (Advanced Encryption Standard) encryption between radios and between radios and dispatch workstations. Encryption options shall be proposed and describe compatibility with APCO standards and/or other manufacturers.
 - 3.5.1 Radio Communications System Control Equipment
- A. The radio system control equipment shall be configured with primary and redundant system control equipment that are geographically diverse.
- B. Connectivity between the primary sites serving the County and the system control equipment shall avoid single points of failure. This can be accomplished through multiple paths, fully-redundant or host-standby backhaul paths. The use of different mediums for the backhaul paths (i.e., fiber and microwave radio) is highly preferable.

C. All system control equipment as well as backhaul paths shall be equipped with short-term and long-term backup power systems.

3.5.2 Simulcast Equipment

- A. If simulcast is proposed, the equipment and overall functionality shall meet the following requirements.
 - 1. The simulcast design shall be GPS-synchronized to provide for proper simulcast timing.
 - 2. Each repeater site shall be equipped with redundant GPS receivers and precision frequency source with a separate antennas. These devices will act as a master oscillator and control the transmitter frequency and launch timing of each simulcast transmitter.
 - 3. The precision frequency resource must meet or exceed the performance of a Stratum 2 ANSI clock standard and shall maintain short-term and long-term stability to support the performance requirements outlined in this RFP. Bidders shall address simulcast stability performance when selective availability impairs the accuracy of the GPS or when GPS timing clocks are lost.
 - 4. The simulcast subsystem shall be capable of automatically adjusting the path delay in the backhaul links to maintain high simulcast audio quality in the talk-out direction. This automatic adjustment shall compensate for any change in the backhaul paths.
 - 5. The proposed system shall include centralized automated simulcast test equipment.
- B. Bidder shall provide a response outlining how the system will address the following subjects:
 - 1. One or more sites losing a backhaul path to the central (comparator) site
 - 2. Loss of backhaul path to a single site
 - 3. Loss of audio timing delay and frequency reference at a single site

3.5.3 Over-the-Air Programming (OTAP)

- A. The system shall provide for Over-the-Air Programming (OTAP) of compatible subscriber equipment.
- B. Parameters shall include those typically provided in a subscriber's configuration file that are both unique to the subscriber, subscriber working group, as well as system (global) parameters. This functionality shall be available via the 700/800 MHz trunked radio traffic channels as well as through County-owned Wi-Fi.
- C. Subscriber firmware updates shall be applied through County-owned Wi-Fi or a direct cable connection.
- D. OTAP capability on subscriber equipment shall be password protected.
- E. Fixed OTAP applications shall track subscriber programming status and provide version control. Programming scheduling shall be provided to allow unattended operation.
- F. OTAP action, once scheduled for a subscriber or group shall be persistent and retry a regular intervals up to a threshold set by the system administrator.

3.5.4 Encryption

- A. The radio communications system shall be capable of supporting encrypted voice and data operation on all system channels and available to all system talkgroups. The encryption option shall include the following features:
 - 1. Multikey
 - 2. Advanced Encryption Standard (AES) algorithm
- B. Key loader devices and associated cables shall be provided allowing for manual loading of encryption keys into purchased subscriber radio equipment. Quantities are shown in Appendix G.

3.5.5 Over-the-Air Rekeying (OTAR)

- A. The system shall be provided with the appropriate software, hardware and licenses to enable OTAR operation, if applicable to the proposed encryption capability. Bidders shall detail the specifications of their proposed OTAR feature including, but not limited to OTAR operation, capacity of individual keys supported by the provided feature, any expansion capabilities of the proposed OTAR solution.
 - 3.5.6 Receiver Voting
- A. If applicable, receiver voting equipment shall monitor all receivers in a simulcast call and select the best signal for rebroadcast through the simulcast cell.
- B. The receiver voting equipment may be configured with geographically-redundant equipment, or use redundant or hot-standby hardware configurations with route diversity if located within the county.
- C. System shall provide for automatic switching, without human intervention resulting in no significant message loss.
- D. Central equipment shall be equipped with short-term and long-term backup power.
- 3.5.7 Base Station Equipment
 - A. General
 - 1. The units shall be of current production and shall be capable of withstanding the harsh operating environment associated with the delivery of public safety services.
 - 2. Equipment shall be FCC Type Certified for Part 90 operation on 12.5 kHz channels and be installed in compliance with the County's FCC authorizations.
 - B. Electrical & Mechanical
 - 1. The equipment shall be modern microprocessor based models, and to the greatest extent, shall use a modular design approach.
 - 2. All operating parameters shall be stored in non-volatile memory and shall be field programmable via PC-based applications and over the backhaul network.
 - 3. Power loss, power restoral, surges, sags and/or brownouts shall not alter the unit's operating parameters. The unit shall remain fully operational when supplied power is within the specifications of its design. The unit shall automatically recover within 30 seconds after experiencing any of the aforementioned occurrences.
 - All equipment assemblies and sub-assemblies shall be shielded to the greatest extent possible to minimize susceptibility to electromagnetic interference from, or to other co-located and/or adjacent equipment.
 - 5. The equipment shall be housed in a chassis suitable for mounting on a standard 19" EIA-310 equipment rack rails.
 - C. Features & Functionality
 - 1. Repeaters shall be capable of operating in a dedicated test mode for transmission of standard TIA102 BER test patterns. Test mode shall be enabled and disabled locally and remotely through administrative software.
 - 2. Provide local and NMS measurement and display capability (via personal computer) to establish realtime receive signal strength information, noise floor, idle channel noise, and other critical RF network

parameters. Idle channel signal measurement shall indicate any on-channel energy above the receiver's noise floor that would degrade uplink performance.

- 3. Repeater FCC ID transmission shall not impact control or voice channel operation from a userperspective.
- D. Programming Software and Hardware
 - 1. Programming, alignment, service cables, as wells as any servicing aids and service software shall be supplied. Software shall be the latest version and be licensed to the County.
- E. Specifications

General	
Programmable Channel Steps (kHz)	6.25
Frequency Spread (MHz)	Full Ranges
Frequency Stability (ppm)	0.1
Operating Temperature Range (degrees C)	-30 to +60
Operating Voltage (Volts)	120 VAC & -48 VDC
Transmitter	
Frequency Range (MHz)	768-776 / 851-869
Conducted Spurious and Harmonic Emissions (dBc)	-70
Transmitter Power (Watts)	As required
Receiver	
Frequency Range (MHz)	798-806 / 806-817
Digital Sensitivity, 5% BER (dBm)	-119
Selectivity, Digital, EIA-310-603E @ 12.5 kHz (dB)	-60
Intermodulation immunity, EIA-310 @ 12.5 kHz (dB)	80
Spurious and image rejection (dB)	-90

3.5.8 Antenna Systems

- A. Selection of the specific antenna model mechanical design, transmitter combiners, and receiver multicouplers shall be the responsibility of the Contractor. However, the design shall meet the requirements in this Section.
- B. All antennas shall be equipped with 7-16 DIN connectors. Type-N connectors may be used when the equipment is unavailable with 7-16 DIN type.
- C. Antennas and transmission lines shall be designed and installed to minimize tower dead and wind loading to the degree practical.

3.5.8.1 General

A. Unless otherwise indicated, all duplexers, filters, combiners, multicouplers or related mounting hardware shall be furnished and installed by the Contractor to achieve the optimal design as offered in their proposal.

- B. Contractor shall supply filters (notch, bandpass, isolators, etc. as needed) if transmitter noise or desensitization from the supplied equipment, or other co-located equipment, is expected to degrade receiver performance greater than 1 dB. This includes all base/repeater stations and control stations.
- C. Antenna mounting positions shall minimize pattern distortion effects caused by tower members, transmission lines, other antennas, and other objects located near the antenna, and maximize coverage in the intended area.
- D. Andrew FSJ4-50B, 1/2 inch super-flex Heliax[®] copper cable shall be used in short lengths where greater flexibility is necessary, unless specified otherwise herein. This includes each antenna and equipment jumpers, and connections to all equipment.
- E. All outdoor transmission lines shall be terminated using 7-16 DIN connectors. Type-N connectors shall be used when the equipment is unavailable with 7-16 DIN type. All connectors shall be premium performance models.
- F. Type-N connectors shall be weatherproofed using Andrew/Commscope self-fusing weatherproof tape model FT-TB, or approved equivalent.
- G. Transmission lines shall be secured through standard cable hangers attached to channel supports or weatherproof "Unistrut" as appropriate. All cables shall be dressed appropriately, and run parallel to each other.
- H. All antenna transmission line shields shall be grounded just prior to entering a facility.
- I. Each transmission line shall be protected from lightning and static discharges with an appropriate Transient Voltage Surge Suppression ("TVSS") device designed with a voltage-handling capability to support the number of transmitters anticipated, plus one future.
- J. All antenna mounts shall be hot-dip-galvanized steel, and all mounting hardware shall be either hot-dipgalvanized or stainless-steel. The use of electro-galvanized or plated material for antenna mounting is not permissible. The use of aluminum for mounting cross-arms or cross-over plates is permissible.
- K. At sites where wood pole structures are used, antennas must be mounted via a "collar" that clamps that use the entire circumference of the pole. It is not permissible to drill holes through the poles to mount antennas or cross-arms. Collars must be hot-dip-galvanized in construction and use galvanized or stainless-steel hardware.
- L. Grounding hardware shall be stainless steel with copper, or tinned copper conductors as appropriate.

3.5.8.2 Repeater Sites

- A. Repeater sites with two or fewer transmitters may be equipped with bandpass duplexers. All other sites shall be equipped with combiners and multicouplers using separate transmit and receive antennas.
- B. All stations equipped with duplexers, or combiners shall utilize dual-stage isolators and low-pass filters on the transmitter outputs.
- C. Antennas shall be high quality, ruggedized models, designed for long-term, high-reliability performance under high wind conditions, and reduce generation of passive intermodulation (PIM). Low-PIM antenna

models may be provided when intermodulation is expected to exceed the degradation limits specified herein.

- D. Antenna models proposed shall support both 700 and 800 MHz public safety frequency bands to allow for future expansion.
- E. Transmission line attenuation shall not exceed 1.5 dB.
- F. Outdoor cable runs shall be continuous lengths, unless cable lengths exceed the maximum length supplied by the manufacturer. The manufacturer's minimum bending radius shall not be exceeded during installation.
- G. Antenna transmission lines shall be grounded to supporting steel structures, at the antenna.
- H. Indoor transmission lines (to/from antennas) shall be terminated using 7-16 DIN connectors. Type-N connectors shall be used when the terminating equipment is unavailable with 7-16 DIN type. All connectors shall be premium performance models.

3.5.8.3 Control Station Sites

- A. Andrew FSJ4-50B, 1/2 inch super-flex or LDF4-50A Heliax copper cable shall be used for control stations.
- B. Indoor transmission lines may be terminated with a connector type that matches that of the equipment.
- C. 6-dBd gain (minimum) yagi or log-periodic type antennas shall be used at control station locations unless specified otherwise below. Antennas shall be of high quality, equipped with solid, press-fit or welded round elements, and be designed to restrict moisture ingress without the use of non-metallic caps, etc.

3.5.8.4 Fixed GPS Antennas

- A. Andrew FSJ4-50B, 1/2 inch super-flex or LDF4-50A Heliax copper cable shall be used for GPS antennas (if required).
- 3.5.9 Dispatch Workstation Subsystem

3.5.9.1 Workstation System Description

- A. The County Sheriff and Fire currently operates two Motorola MCC5500 dispatch workstations at the County Dispatch Center. Connectivity is through control stations located in the local equipment room.
- B. The County workstations shall be replaced with new P25-capable dispatch workstations. These shall interface to the new trunked radio system via the new backhaul network. The new workstations shall also interface with conventional channels as described in Section 3.5.9.3.
- C. The County workstation system shall also interface with the new proposed voice logging system.
- D. Workstation systems at other locations may interface with the trunked radio system via control stations.
- E. New workstation systems shall maintain and provide the functionality of existing systems and equipment to the same level of performance as the existing configurations.
- F. The table below indicates new workstation locations and quantities:

Location or Agency Quantity

County Dispatch Center	2
Gonzales Police	1

Table 3 – New Dispatch Workstation Locations

3.5.9.2 Features and Functions

Trunked Radio System

- A. The workstation system shall interface with the trunked radio system and shall provide all workstation control features over the trunked radio system. The workstation system shall support both P25 Phase 1 and P25 Phase 2.
- B. The workstation system shall provide full P25 open-standard encryption/decryption capabilities (AES) that are compatible with P25 subscriber units. The encryption/decryption functionality shall be under the control of authorized users through the radio workstation system. The workstation system shall support encrypted voice calls.
- C. The workstations shall support emergency call operation and have both a visual and an audible notification of emergency calls initiated by the subscriber units.

3.5.9.3 Conventional Radio Channels

- A. The new workstation system must interface with existing conventional channels and provide the same level of operation as the existing workstation system. The conventional channels must be capable of being patched to the trunked radio system without the use of VOX control.
- B. County workstations shall be interfaced to the following existing conventional control stations:
 - GONZ FIRE NO.

- GONZ CITY FIRE DIG.
- WAELDER PD & FD
- EMS EAST / PAGING
- EMS WEST / PAGING

GONZ FIRE SO.

- NIX DIG
- 8TAC92
- C. Workstations at other locations shall be interfaced to existing control stations as required. These shall be determined following the site survey.

Control Capability

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- A. Workstation systems shall be capable of the following control capabilities:
 - 1. Industry-standard Tone Remote Control Protocols
 - 2. E&M Signaling
 - 3. System Guard Tone
- B. Workstations shall be capable of generating standard EIA guard tone sets, which may be required for special purposes. In compliance with FCC regulations, if control circuit facilities should be lost, the system shall be designed such that the base station transmitter ceases transmitting within 500 milliseconds.

Backup Control Stations

A. County workstation positions shall be equipped with one full-featured backup control station for trunked operation to protect against a workstation and/or connectivity failures. The control station may be

located at the workstation position, or a remote controller may be located at the workstation position with the control station in a separate equipment room.

Instant Recall Recorder

- A. Each workstation shall be equipped with an instant recall recorder (IRR). The IRR shall be capable of recording radio communications from the selected channel or talk-group. If telephone communications are performed through the workstation headset, the IRR shall be capable of recording audio from telephone communications.
- C. The IRR shall be capable of storing at least 30 minutes of audio. IRR audio shall be replayed through the workstation select speaker.
- D. The IRR shall be equipped with the following features:
 - 1. Fast forward and reverse
 - 2. Simultaneous record and playback

Paging Encoder

A. Workstation systems shall be equipped with integrated paging encoder capabilities and support the twotone sequential paging format. The encoder shall be capable of initiating a single page or multiple pages at once. The workstation operator shall be able to review paging sequences before transmission is initiated. Paging sequences shall be queued while other paging sequences are being transmitted. An indication shall be provided at the workstation to indicate when a paging sequence is complete.

Auxiliary Inputs and Outputs

A. The workstation system shall be supplied with auxiliary inputs and dry contact relay outputs (Aux I/Os) for doorbell, door controls and remote alarms when required. Auxiliary inputs shall be visible at each workstation. Auxiliary outputs shall be operable at each workstation position. The system shall be capable of at least eight (8) inputs and eight (8) outputs.

Concurrent Workstation Operation

A. Allowances shall be made for parallel workstation operation with the existing radio systems and the new radio system until complete conversion to the new radio system.

3.5.9.4 Workstation Equipment

Physical Configuration

- A. Workstation equipment shall be installed in existing dispatch centers described in Table 3.
- B. The individual workstations shall be modern workstations with CPU and audio cabinets, as necessary. Workstation monitors shall use flat-panel touch technology. Workstation CPUs shall be capable of being housed in the workstation furniture to maximize operator work surface.

Operator Position Hardware

- A. The Contractor shall provide the following equipment for each position:
 - 1. Footswitch: One single pedal transmit footswitch per workstation.
 - 2. Microphone: One per workstation, high-quality microphone preferably on a pedestal.
 - 3. Headset Jacks: Two headset jacks per workstation, below table edge mountable, automatically disconnect external microphone and select speaker, the capability to converse on the telephone using the same operator headset and jack that is used for radio conversations shall be provided.

Separate volume controls shall be provided to control radio volume and telephone volume to the headsets.

- 4. Wireless Headset: Three wireless headset per workstation; operates with the same functions.
- 5. Handset: One Handset per workstation (mandatory optional to replace headsets); operates with the same functions.
- 6. Speakers: One select speaker and one unselect speaker per workstation, with separate volume controls.
- 7. Display: One display per position

Position Hardware Requirements

- A. The workstation shall be mounted below the work surface, but controls shall be accessible to the workstation operator with minimal effort.
- B. The workstation shall use a mouse or similar pointing device. The operator can transmit using either the left or the right mouse button.
- C. The workstation shall also have a standard PC keyboard.
- D. The display shall be a minimum 27-in flat-panel touch screen LCD display. Minimum resolution shall be 1920 x 1080 pixels. Display controls shall be accessible to the workstation operator
- E. Speaker audio output shall be at least 3.5 watts. Each speaker shall have its own volume control. The select speaker shall reproduce the audio from the selected talk-groups or channels. The unselect speaker shall reproduce the audio from the other talk-groups or channels being monitored by the workstation.
- F. Headset jacks shall be standard four- or six-wire connections for headsets with integrated microphones. Inserting the headset plug into either jack shall route the select audio to the headset and disable the workstation select speaker.
- G. Headset jacks shall be interfaced with the existing telephone system so dispatchers can use the same headset for telephone and radio communications.

3.5.9.5 Workstation System Operation

Workstation Operating Characteristics

- A. Transmitting over the displayed selected talk-groups or conventional channel(s), and instant transmitting over a displayed talk-group or conventional channel shall be performed with only one operator action.
- B. To minimize operator confusion and mistakes, all channels, talk-groups, and users shall be indicated by actual aliases, not numeric resource references. Aliases coding shall allow at least eight (8) alphanumeric characters.
- C. All workstations shall be synchronized to the radio system common time signal reference.

Workstation Capabilities

- A. The workstation shall be capable of the following operations:
 - 1. Supervisory Control: Allows supervisor to override or disable a workstation position.
 - 2. Patch: Allows multiple talk-groups or channels to be patched together. The workstation shall be capable of at least three patches simultaneously. Patches shall not use VOX control capability.
 - 3. Simultaneous Select: Allows workstation operator to call multiple talk-groups or channels at once. The workstation shall be capable of at least three (3) simultaneous select groups.

- 4. Intercom: Allows workstation operator to selectively talk to another workstation directly.
- 5. Workstation Cross Mute: Prevents feedback between workstations.
- 6. Alert Tones: The workstation shall be capable of transmitting alert tones over the radio system.
- 7. Workstation Pre-Empt/Priority: The workstation shall have priority or workstation pre-emption transmit capabilities on either the trunked or conventional radio systems when not using control stations.
- 8. Full-Duplex: Workstations shall be capable of receiving radio system message while transmitting when not using control stations.
- 3.5.10 Network Management System (NMS)
- 3.5.10.1 General
 - A. The Network Management System shall be provided as a service. It will support the radio system, as well as other specific site components as specified herein. Such functionality may be provided on an integrated radio and backhaul NMS (backhaul NMS functionality is described in Section 4.5).
 - B. Eligible providers under this approach would include the radio system administrator (for leased options) or a communications manufacturer or contractor, recommended by the system administrator.
 - C. Under this approach, the County would work closely with the provider to administer dispatch workstation and subscriber configurations, as well as enabling and disabling subscribers.
 - D. As the County will own and operate some portion of the facilities under a leased systems approach, the NMS shall be capable of email and paging notifications of threshold events to County personnel that require immediate response and deployment by local agencies. This would include unauthorized site access and other alarms from environmental systems owned and operated by the County.
 - E. It is expected that the NMS will consist of the following functions:
 - Configuration Management
 - Performance Management
 - Security Management
 - Fault / Alarm Management
 - F. The NMS may comprise one or more subsystems to perform these functions. For example, configuration, performance, and security may be provided on one NMS network, while alarm reporting may be provided on a separate NMS.
 - G. The expected capabilities the NMS are described in the following Sections.
- 3.5.10.2 Configuration Management
 - A. The NMS shall provide the human-machine interface for configuration of the radio system and associated subsystems. Radio system configuration includes items such as the following:
 - Channel partitions
 - Control channel designations
 - Encrypted channel designations
 - Enabling or disabling channels
 - Enabling or disabling sites
 - Trunking modes
 - System fault definitions
 - Workstation configurations or personalities
 - Subscriber or user configuration includes items such as the following:

- Allowable call length
- Talk-group definitions
- o Unit ids
- o Enabling or disabling subscriber units
- B. The NMS shall provide a database for all radio system elements.
- 3.5.10.3 Performance Management
 - A. The NMS shall display and store system status and traffic data for functional and organizational management of the user base. The system shall be capable of displaying channel activity for critical county sites on screen for immediate awareness of site or system anomalies.
 - B. The NMS shall store historic performance data on electronic media. Such data will be available to County if needed for its own management purposes.
- 3.5.10.4 Security Management
 - A. Access to the NMS shall be password protected. Control and diagnostic operations shall be accessible to a limited number of administrator-level users authorized to control these operations.
- 3.5.10.5 Fault/Alarm Management
 - A. The NMS shall monitor the radio system and microwave network for critical and non-critical failures and status changes. The system shall be continuously and automatically monitored for failure of any key component. Any failure of a key component shall be automatically indicated at the NMS workstations.
- 3.5.10.6 Alarm Points
 - A. The NMS shall monitor and alarm major and minor failures, abnormal conditions of operation, and status changes of the radio system and connectivity network. Alarms monitored shall include equipment failures or link failures of, or to the following equipment or systems:
 - GPS receivers
 - Repeaters
 - Tower-top amplifiers
 - Antenna systems
 - Control systems
 - Network management systems
 - Database management systems
 - Dispatch Workstations
 - Summary alarms from connectivity system
 - Routers & network switches
 - B. The above list is a minimum requirement. The NMS shall allow any failure or abnormal operating condition to be traced to the equipment level.
 - C. In addition to radio system alarms, the following facility alarms shall be supported at each communications location are to be integrated into the NMS, when the particular capability exists:
 - Building Intrusion
 - Building Low/High Temperature
 - Tower Lighting
 - Building Smoke/Fire
 - Air Conditioner Failure
 - Commercial Power Failure
 - Generator Run
 - Generator Low Fuel in Tank

• Generator Failure Summary Alarm

3.5.10.7 Redundancy

A. The NMS shall be fully redundant for both hardware and software, with a primary and a backup server. In the event of equipment failure of the primary server, the backup server shall automatically switch in a seamless manner to the primary mode of operation. If the primary server loses visibility of any remote County sites due to a backhaul outage, the backup server shall assume the primary function of operation.

3.5.10.8 Historical Data

A. The alarm system shall store historical alarm data. Historical alarm reports shall be capable of querying, allowing the administrator to produce alarm reports based on individual alarm, equipment, equipment type, subsystem, or time. The system shall store historical alarm data for a period of 90 days at a minimum.

3.5.11 P25 Inter-RF Subsystem Interface (ISSI)

Contractors may propose the use of and ISSI interface to bridge local talkgroups to outside systems operated by other agencies. The Bidder's description of how ISSI operates specific to the County must be included in response to Appendix E, Section C.

3.5.12 Voice Logging Recorder

- A. Contractors shall propose a replacement voice logging system to replace the existing system at the County dispatch center and Gonzales Police Department. The new system shall be equipped with the 2X the number of recording channels existing today. System shall be interfaced with all current radio, telephone and dispatch position channels plus new talkgroups proposed by the County. P25 metadata shall also be recorded with the voice. Encrypted voice traffic shall be recorded in the clear.
- B. Recorder that be provided with a GPS time source.
- C. Recorder shall be supported by existing backup power systems.
- D. System shall be capable of operate from both front panel as well as a web (or app)-based server.

4. Backhaul Network Requirements

4.1 General Backhaul Network Requirements

The proposed backhaul network for the communications system shall provide interconnections between the radio repeater sites in the system, Gonzales County Dispatch (Sheriff & Fire) and any other system facilities required for system operation. This would include any other land mobile radio sub-systems included in the overall system proposed by the bidder.

Interconnections shall be provided employing licensed microwave links or fiber interconnections, or a hybrid system employing both licensed microwave and fiber links. Existing fiber links between proposed radio and dispatch facilities may be included in the network, as long as they supply the bandwidth required for the reliable operation of the radio system.

The interconnect for the proposed radio system in Gonzales County system (whether fiber, microwave radio or a hybrid mix of fiber and microwave links) shall be configured as a protected loop, including all of the radio repeater sites and other ancillary facilities such as dispatch centers that make up the portion of the system intended to provide coverage within Gonzales County.

4.2 Fiber Optic Communications Backbone Cabling

4.2.1 General

4.2.1.1 Summary

This Section includes requirements for the installation of a TIA/EIA standard interior (inside plant) communications cabling system.

4.2.1.2 Related Documents

Refer to other subsections under Section 4.2 for submittals, substitution request, quality assurance, warranty, test, and inspection requirements.

4.2.1.3 Submittals

Provide submittal information for the following submittal sections as described below:

- A. Product Data
- B. Shop Drawings
- C. Cable Routing and Grouping Plan: Provide only if cable routing and grouping have not been shown on the Drawings, or if proposing a deviation.

4.2.1.4 Testing

- A. Provide a list of proposed test equipment for use in verifying the installation of the communications.
- B. Provide for each testing device:
 - 1. Manufacturer and product number.
 - 2. Manufacturer documentation showing date and outcome of last re-calibration. Testing device shall have been re-calibrated within the manufacturer's recommended recalibration period.
 - Manufacturer documentation showing software revision. Software revision shall be most current revision available for the device and shall be based upon the most current TIA/EIA testing guidelines.
 - 4. Patch cords and other specialized components.
- C. Provide proposed test result forms.
- D. Provide the calculated optical fiber cable loss budget for each optical fiber cable in the system.

4.2.1.5 Products

4.2.1.5.1 General

- A. Communication cabling system components shall be sourced (manufactured) by formally partnered Manufacturers (collectively referred to as the "Manufacturer"). Products shall not be intermixed between different manufacturers unless the Manufacturer of the chosen communications cabling system has listed (in writing) another manufacturer's component as an "Approved Alternative Product" and will warrant the "Approved Alternative Product" as part of the Manufacturer's extended Warranty.
- B. For a given Manufacturer, all cabling products shall be part of a single product line components shall not be intermixed between a Manufacturer's product lines. The product line shall be engineered "end-to-end"

(i.e. the system and all of its components shall be engineered to function together as a single, continuous transmission path).

- C. Physically verify the following materials on site, prior to purchase and delivery of the materials:
- D. Lengths of conduit and/or pathway to be used for routing backbone cabling. Pre-cut materials of insufficient length shall not be installed.
- E. Fill ratio and overall suitability of raceway for installation of inside plant cabling. Promptly notify the Engineer of potential overfill, potential for installation problems due to overfill, or raceway which may be otherwise deemed unsuitable for use, and shall await the Engineer's direction prior to purchase and delivery of the materials.

4.2.1.5.2 Performance

- A. Protocols/Services:
 - 1. At a minimum, the communications cabling system shall support data network protocols/services at rates up to 10 Gbps. It shall support 10 Mb, 100 Mb, 1 Gb, and 10 Gb Ethernet and other network protocols. The communications cabling system shall additionally support RS-232 and other dedicated point-to-point protocols.
- B. Fiber terminations
 - 1. Enclosures:
 - a. Accept modules for the termination of multimode and/or single mode fiber backbone cables.
 - b. Shall be sized to accommodate the port/fiber count as shown on the Drawings.
 - c. Rack mountable with sliding doors and strain relief where shown as rack mounted.
 - d. Blank adapter panels for unused openings
 - e. Complete with fiber connectors and receptacle adaptor packs or splice cassettes and with incidental materials necessary for mounting.
- C. Connectors:
 - 1. Multimode: Duplex [Simplex], LC [SC] [ST] [MT-RJ] connectors for 50/125 µm multimode fiber
 - 2. Single-mode Duplex [Simplex] LC [SC] [ST] [MT-RJ] connectors for single mode fiber
- D. Manufacturers:
 - a. CommScope
 - b. Corning
 - c. Panduit
 - d. Approved Equal

4.2.1.5.3 Products:

- A. Fiber Enclosure:
 - 1. Panduit FRME*U series
 - 2. 1RU Enclosure: CommScope HD-1U
 - 3. 2RU Enclosure: CommScope HD-2U
 - 4. 4RU Enclosure: CommScope HD-4U
 - 5. Wall Mount: CommScope WB2-EMT-BK-8P-MOD
 - 6. Light Pole Enclosure: Corning SPH-01P
- B. Splice Cassettes
 - 1. SM: CommScope G2-SP-24LCG-PT
 - 2. SM APC: CommScope G2-SP-12LAG-PT
 - 3. SM Light Pole: Corning CCH-CF
- C. Connectors:
 - 1. Multimode Adapter/Connector: Panduit FAP6WAQLCZ series
 - 2. Single-mode Adapter/Connector: Panduit FAP6WBUDLCZ series
 - 3. Single-mode APC Adapter/Connector: Panduit FAP6WGDSCZ series
 - 4. Blank Panel: Panduit FAPB series
- D. FIBER SPLICE CASE
 - 1. Wall mounted enclosure that provides splicing, administration and storage for outside plant (OSP) and intrafacility cables.
 - 2. Cabinets are designed for deployment in a building equipment area
 - 3. Bend radius protection and discrete subunit routing paths ensure easy installation
 - 4. Can deploy high count of stranded or ribbon fiber cables
 - 5. Ultra-high density splice capacity
 - 6. Manufacturers:
 - a. CommScope
 - b. Corning
 - c. Approved Equal
 - 7. Product:
 - a. Splice Case: CommScope FEC-24
 - b. Splice Tray: CommScope FST-HS-48
 - c. Clamp Kit: OSP-CLPFEC-LG

- E. FIBER CABLING
 - 1. General requirements:
 - a. Cable shall be riser (CMR) rated.
 - b. Cable shall be OSP rated when installed in underground conduits.
 - c. Cables shall be manufactured by the selected communications cabling Manufacturer.
 - 2. Fiber Cable shall have the following properties:
 - a. Interlocking aluminum armor
 - b. Singlemode:
 - Meet or exceed OS1 requirements
 - Indoor Color: Yellow
 - OSP Color: Black
 - c. Multimode 50/125 µm:
 - Meet or exceed Choose an item. requirements.
 - Capable of supporting 10 Gigabit Ethernet at a distance ?TBD meters.
 - Color: Aqua
 - 3. Manufacturer:
 - a. CommScope
 - b. Corning
 - 4. Products:
 - a. Indoor: CommScope R-###-DZ-8W-FMUYL where ### is the strand count.
 - b. Indoor/outdoor: CommScope R-###-LZ-8W-F12BK/25D where ### is the strand count.
 - c. 2-hour rated: CommScope 2-1716211-4 C-012-L2-8W-M12BK
- F. Cable assemblies (patch cords) and cross-connects
 - 1. Fiber Patch Cables:
 - a. Provide fiber patch cables for fiber cross-connects. Fiber patch cables shall be pre-manufactured (factory-terminated) with a UL rating of OFNR. Fiber patch cables shall be manufactured by the selected communications cabling Manufacturer.
 - b. Multimode:
 - Cable shall have duplex LC connectors on both ends and meet the requirements for cabling in paragraph above.
 - Sizes: Provide 3-meter patch cables.
 - Quantity: Provide for 25% of all multimode ports.

- Color: Aqua
- c. Single-mode:
 - Cable shall have duplex LC connectors on both ends and meet the requirements for cabling in paragraph above.
 - Sizes: 3-meter and 5-meter
 - Quantity: Provide for 50% of all single-mode ports.
 - Color: Yellow
 - Product: CommScope FEWLCLC42-JXM003 and FEWLCLC42-JXM005
- G. Cable Straps
 - a. Reusable Velcro hook-and-loop style straps to secure cable bundles. Plastic tie wraps are unacceptable.
 - 4.2.1.5.4 Testing
- A. General
 - 1. Testing of the systems shall be in accordance with the manufacturer's recommendations and with the requirements herein.
 - 2. Test reports shall be complete and in accordance with those herein.
 - 3. Where testing discloses deficiencies in the work, rework, repair, or replace equipment and systems found deficient. Continue remedial measures and retesting until satisfactory results are obtained. Remedial measures and retesting shall be at no additional cost to the Owner.
 - 4. Testing of product or equipment prior to installation shall include performance testing to establish the applicability of equipment for its intended purpose.
 - 5. Establish the required test procedures from those herein required and manufacturer's recommendations.
 - 6. Provide necessary test equipment, power, and consumables to perform the test.
 - 7. Notify the Owner's Representative of test schedule(s) at least one week in advance
 - 8. Perform test
 - 9. Provide test result documentation to the Owner's Representative.
- B. Final testing and start-up of product, equipment, and systems shall include establishing proper capacity, operation, maintenance, and compliance with those herein.
 - 1. Provide the services of manufacturer's representatives for systems to be tested and started up.
 - 2. Establish the required test procedures from those herein and manufacturer's recommendations.
 - 3. Provide necessary test equipment, power, and consumables to perform the test.
 - 4. Notify the Owner's Representative of test schedule(s) at least one week in advance
 - 5. Perform tests and start-up functions
 - 6. Provide documentation of test results and fully operational systems to the Consultant
 - 7. Test records shall be provided on a form approved by the Owner's Representative
- C. Systems Specific: Test shall be performed for each of the following systems as follows:

- 1. Each cable in the system shall be tested. Test result forms shall include the cable identifier, tests performed, outcome of tests and indication of errors found, cable length, retest results, and name and signature of technician completing the tests. Test result forms shall be provided to the Owner's Representative for review and acceptance.
- 2. Test records for each cable within the system shall be printed directly from the tester and shall be submitted in paper form (in a binder) and on diskette to the Owner's Representative for review. Handwritten test results will not be accepted.
- a. Communications Cabling System

4.2.1.5.5 Test Records

- A. Testing Devices: Testing devices shall be capable of storing and printing test records for each cable within the system. cable within the system.
- B. For fiber cables:
 - Testing devices shall consist of a light source/power meter with a stabilized light source for end-toend attenuation testing and an Optical Time Domain Reflectometer (OTDR) for testing on the reel, for continuity and quality testing, for accurately determining cable length, and for locating and correcting problems noted during attenuation testing. Testing equipment shall be calibrated and traceable to the National Institute for Standards and Technologies (NIST), with an operating range of 850 ±30 nm or 1300 ±20 nm in accordance with TIA/EIA-526-14 for multimode testing, and an operating range of 1310 ±10nm or 1550 ±20 nm in accordance with TIA/EIA-526-7 for single mode testing.
 - 2. To ensure quality connectorization/splicing, a microscope of not less the 200x magnification shall be used to visually inspect connectors and splices after installation.

4.2.1.5.6 EXECUTION

- A. General
 - 1. Pay particular attention to and comply with the applicable portions of the following:
 - a. TIA-568-C: Commercial Building Telecommunications Cabling Standard
 - b. TIA-606-A: Administration Standard for Commercial Telecommunications Infrastructure
 - c. J-STD-607-C: Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications
 - d. TIA-455: Fiber Optic Test Standards
 - e. TIA-526: Optical Fiber Systems Test Procedures
 - f. IEEE 802.3 (series): Local Area Network Ethernet Standard, including the IEEE 802.3z Gigabit and 802.3ae and 802.3an 10 Gigabit Ethernet Standard
 - g. BICSI: BICSI Telecommunications Cabling Installation Manual
 - h. Manufacturer Recommendations and Installation Guidelines
 - i. TIA-455: Fiber Optic Test Standards

B. Connectors

- 1. Fiber connectors and splices:
 - a. Visually check fiber connectors/splices after splicing with a minimum 200x magnification microscope to ensure that no physical damage has occurred during the installation process.
 - b. Fiber splices shall be fusion and shall be required for all fiber strands. Mechanical splices are not acceptable. Each fusion splice shall be protected in a splice tray or similar protective device that is designed to mount within the enclosure. Bare/stripped optical fiber strands shall be protected with a heat shrink or silicon adhesive to prevent exposure to moisture.
- 2. Cable General (applicable to all cable types):
 - a. Cable shall be installed in strict compliance with the manufacturer's recommendations.
 - b. Maintain separation from other conductors (power, fire alarm, etc.) per NEC requirements and TIA/EIA standards.
 - c. The bending radius and pull strength requirements of all cable as detailed in the TIA/EIA standards and the manufacturer's installation recommendations shall be strictly observed during handling and installation.
 - d. Pull cables simultaneously where more than one cable is being installed in the same raceway.
 - e. Use pulling compound or lubricant where necessary. Use compounds that will not damage conductor or insulation (Polywater, or approved equal).
 - f. Use pulling means; including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cable or raceway.
 - g. Cable jackets shall not be twisted during installation. Cables showing evidence of twisting shall be replaced at no additional cost to the Owner, regardless of the outcome of cable testing.
 - h. Cable shall be installed in a continuous (non-spliced) manner unless otherwise indicated.
- 3. Cable installed in conduit and/or ducts:
 - a. Fill ratios shall not exceed NEC requirements.
 - b. Cable shall not be pulled into conduit/ducts until the conduit/duct ends have been prepared for cable installation (i.e. reamed to eliminate sharp edges and insulated throat bushings installed).
 Cables pulled into conduit/ducts prior to conduit/duct end preparation shall be replaced at no additional cost to the Owner.
 - c. Reinstate pull-wires in conduits and ducts after use to facilitate future addition of cables.
- 4. Cable installed in cable tray:
 - a. Cable shall not be attached to the cable tray (i.e. cable shall be left "loose") with the exception of cable installed in cable tray (cable runway) within telecommunications rooms (see "Cable in telecommunications rooms" below).

- b. Cable shall be laid in tray in such a way as to present a neat and professional appearance.
- c. For cable tray serving both backbone (riser) and horizontal cabling, install cable in cable tray in such a manner that backbone cabling does not overlap with horizontal cabling reserve approximately one-fourth of the space in the tray for backbone cabling and the remaining three-fourths for horizontal cabling.
- d. Where cables in cable trays are required to maintain specific distances between each other, they shall be firmly secured to maintain this distance at fire rated penetrations.
- 5. Cable not installed in conduit/ducts or cable tray:
 - a. Cables shall be strapped or fastened with reusable Velcro hook and loop style cable straps/fasteners for support. Staples and tie-wraps are not acceptable:
 - b. cable within the system. Cables in suspended cable runs shall be supported at varying intervals. Cable spans shall be limited to 5 feet or less, and the length of spans shall vary along the cable path (i.e. a given span should not be exactly the same length as the span preceding or following it – "exact" spans can degrade cable performance.
 - c. Cable installed on exposed surfaces or structural members shall be installed parallel and perpendicular to the surfaces. Surface contours shall be followed wherever possible. Cables shall be attached to surfaces at intervals not to exceed 3 feet.
 - d. Attaching cables to pipes, electrical conduit, mechanical items, existing cables, or the ceiling support system (grids, hanger wires, etc. with the exception of ceiling support anchors) is not acceptable.
 - e. Lay and dress all cables to allow other cables to enter raceway (conduit or otherwise) without difficulty at a later time by maintaining a working distance from these openings.
 - f. Cable shall be routed as close as possible to the ceiling, floor, sides, or corners to ensure that adequate wall or backboard space is available for current and future equipment and for cable terminations.
 - g. Lay cables via the shortest route directly to the nearest edge of the backboard from mounted equipment or blocks. Secure all similarly routed and similar cables together and attach to D-rings vertically and/or horizontally, then route over a path that will offer minimum obstruction to future installations of equipment, backboards or other cables.
- 6. Cable in telecommunications rooms:
 - a. Cable Slack:

Provide cable slack (service loops) at cable ends (both ends) to accommodate future cabling system changes. Provide slack length as follows:

For fiber: Provide a minimum of 25 feet.

7. Fiber Cable:

- a. All fiber strands within a fiber cable shall be spliced/connectorized. The installation of "dark fiber" is not acceptable.
- b. Cable shall be tested on reel prior to installation.
- 8. Cable assemblies (patch cords) and cross-connects
 - c. Furnish cable assemblies and cross-connect fiber patch panels as shown in the wiring diagrams provided in the shop drawings.

C. Testing

- 1. General
 - a. Test devices shall be in calibration throughout the testing period. Tests performed on equipment without up to date calibration shall be rejected and shall be repeated at no additional cost to the Owner.
 - b. Notify the Owner's Representative seven (7) days in advance of each type of test to be conducted. The Owner and/or Consultant may, at their discretion, witness all testing.
 - c. The Owner and Owner's Consultant shall be invited to attend and inspect the first instance of each type of test to be conducted. Tests conducted prior to first inspection shall be at the sole risk of the Contractor, and as such are subject to rejection. Such tests will be repeated at no additional cost to the Owner.
- 2. Communications Cabling System Testing
 - a. All interior (inside plant) and exterior (outside plant) fiber cables shall be tested on the reel upon delivery to the job site prior to installation. reel upon delivery to the job site prior to installation.
 - b. Test results shall be permanently affixed to the reel and a copy given to the Owner and Consultant for review prior to installation.
 - c. Testing shall demonstrate compliance with the factory test results as shipped with the reel. Cables that fail to pass shall not be installed, and replace the cable at no additional cost to the Owner. Repair of damaged cable is not acceptable.
 - d. Test the communications cabling system for compliance with those herein and all applicable standards as follows:
 - e. Visually inspect all labels at the station locations (faceplates/ports), patch panels/ports, and on each end of each cable to ensure that all cables and equipment are correctly identified.
- 3. Fiber Cable Testing:
 - a. Prior to testing, calculate the cable loss budget for each optical fiber cable and shall be clearly shown on the test documentation. Maximum loss shall be calculated by the following formula, assuming no splices

- b. Test all strands. Testing shall consist of a bi-directional end-to-end Optical Transmission Loss Test Instrument trace performed per ANSI/TIA-568-C, TIA/EIA-455-61 and/or a bi-directional endto-end power meter test performed per ANSI/TIA-568-C and TIA/EIA-455-53A.
- c. Loss numbers shall be calculated by taking the sum of the two bi-directional measurements and dividing that sum by two.
- d. All backbone fiber cables shall be tested with an OTDR in addition to attenuation testing performed with a power meter.
- e. The number of samples (averages) for each OTDR test shall be such that the noise amplitude is significantly less than the smallest loss of any component under test.
- f. Multimode fiber testing shall incorporate use of a mandrel wrap of fiber jumper to induce macro bends in the fiber.
- g. Test measurements shall be provided as follows:
- h. For Multi-mode Cable: Test at both 850 and 1300 nm.
- i. For Single mode Cable: Test at both 1300 and 1550 nm.
- j. Test results shall demonstrate compliance with:
- k. The criteria specified in TIA/EIA-568-C
- I. The calculated loss budget above.
- m. The criteria specified in IEEE 802.3z (1000Base-X Gigabit Ethernet) and IEEE 802.3ae (10GBase-X 10 Gigabit Ethernet)
- n. In addition to the above, tests performed shall be both those recommended and mandated by the communications cabling system Manufacturer.
- o. Cables and equipment that do not pass shall be identified to the Owner's Representative. The source of the non-compliance shall be determined, corrected or replaced, and re-tested at no additional cost to the Owner. Provide new test results to the Owner's Representative in the same manner as above.
- p. If it is determined that a cable is at fault, remove the damaged cable and replace it with a new cable. Cable "repairs" are not acceptable. The procedure for removing the cable shall be as follows:
 - i. Prior to removal of the damaged cable and re-pull of the new cable:
 - ii. Any cables which are in the same conduit, duct or innerduct as the damaged cable shall be tested, regardless of whether they are new cables installed as part of this project or existing cables installed prior to this project.

- iii. If the damaged cable is a backbone or outside plant cable:
- iv. The Owner and Consultant shall be informed of the schedule for the removal and re-pull.
- v. The new cable shall be tested on the reel prior to installation.
- vi. All test results shall be provided to the Consultant for approval.
- vii. The damaged cable shall be removed, and the new cable shall be pulled in.
- viii. After the removal of the damaged cable and re-pull of the new cable:
- ix. The new cable shall be tested.
- x. Any cables which are in the same conduit, duct or innerduct as the damaged cable shall be tested, regardless of whether or not they are new cables installed as part of this project or existing cables installed prior to this project.
- xi. All test results shall be provided to the Consultant for approval.
- xii. Existing cables which are in the same conduit, duct or innerduct as the damaged cable, and which are damaged by the extraction and re-pull process, shall be removed and replaced at no additional cost to the Owner.
- xiii. Existing damaged cables that are replaced shall be subject to the testing procedures of this section in its entirety.
- 4.3 Licensed Digital Microwave Network

4.3.1 FREQUENCY COORDINATION AND FCC LICENSING

Provide frequency coordination and FCC licensing for all licensed digital microwave links proposed under this Section.

- 4.3.2 DOCUMENTATION REQUIREMENTS
 - 4.3.2.1 General

Conformance to Standards

All documentation supplied shall conform to the standards of quality defined in 4.3.2.2 below. Bidder shall fully describe the documentation standards to be followed. The Contractor shall replace any documentation free of charge which in the County's judgement does not meet such standards.

The primary purpose of the Contractor-supplied documentation for the project is to ensure that the equipment can be installed, aligned, turned up for service, and maintained by the County throughout its working life. All information pertinent to the equipment configuration as furnished shall be included. Full rack and backplane wiring information is essential for troubleshooting a wiring failure, and shall be included.

Documentation Submittal Requirements

All documentation submitted shall be accompanied by a letter of transmittal which shall provide the following information:

- A. County's Project Name(s)
- B. County's Quotation Order Number
- C. Specification Number
- D. Document Identification Number, Title, Revision and Date
- E. Description and Quantities of Items Sent
- F. Contractor's Correspondence Identification
- G. Drawing List

Drawing Submittal

Drawings shall be submitted folded in sets and each set shall be accompanied by a drawing list which shall list each drawing in the set with its number, title, revision number, and release date.

The Contractor shall supply one D-size set of drawings. These shall be provided to the County two weeks prior to equipment delivery. After system acceptance, the Contractor shall provide an updated D-size set of drawings showing the as-built status. Additionally, the Contractor shall provide equipment wiring and block and level diagrams, floor plans, site layouts, and other graphics in Microsoft Visio format as well as .pdf format.

Master Drawing List

A Master Drawing List shall identify, in numerical order, all the drawings used in the design and manufacture of the work defined by the specification. All drawings shall be listed by drawing number, title, revision number and date.

4.3.2.2 General Documentation Quality Requirements

All documentation shall meet the following standards:

- A. Legibility and contrast of the documents shall be such that every line, number, letter and character is clearly legible.
- B. Reproductive quality shall be of such clarity as to produce a third generation copy which will meet the legibility requirements of Section 4.3.2.2 above.
- C. Documentation shall be right reading from the image side and shall have dark lines on a light background (positive).
- A. As practicable, documentation shall be typed and/or lettered and arranged in a neat and professional manner.
- B. When applicable, documents shall contain a table of contents, a list of figures, and abbreviation list, and a table of referenced or complementary documents.

4.3.2.3 Document Submittal Schedule

Refer to Section 1.4.6 through 1.4.9 for the Document Submittal Schedule.

4.3.2.4 Project Documentation

Project (as-built) documentation requirements are shown in Section 8.11

4.3.2.5 Change Notice and Modification Kits

Contractor Requirements

Contractor shall inform County by means of service bulletins or similar documents whenever a design change is made to the equipment furnished by Contractor for any of the following reasons:

- A. The change is required to correct a chronic failure condition.
- B. The change is required to ensure adequate margin within specification.
- C. The change is required for reasons of safety to personnel.
- D. The change is required to meet regulatory requirements.

Service Bulletin

Service bulletins, and modification kits where appropriate, shall be provided to County from time of delivery throughout the support life of the equipment, for not less than 15 years. Such bulletins shall be provided at no charge, although reasonable charges may be made for modification kits after the contractor's warranty has expired.

It is not County's intention to upgrade equipment to the latest issue throughout its life; however, knowledge of changes in the categories listed above are considered mandatory for proper maintenance and performance of the system.

4.3.2.6 English Language

All correspondences, manuals, drawings, and other documentation shall be in the English language.

4.3.3 System Requirements

4.3.3.1 Path Reliability

The radio and supplemental equipment shall provide protection against multipath fading that meets or exceeds County's requirements for one-way path reliability based on a minimum BER of 10-6. The one-way per hop multipath propagation reliability shall be at least 99.9995%.

This Multipath Reliability shall be calculated using the Vigants method described below at 10-6 BER.

The Vigants formula for calculating multipath outage for non-space diversity is given below:

 $T = 0.4 c f t D^3 10^{-CFM/10}$

The definitions of the terms are as follows:

T = Total annual multipath outage time in seconds (one way).

- T = Average annual temperature
- c = Climate terrain factor
 - 0.5 (w/50)^{-1.3} (mountainous)

(w/50)^{-1.3} (inland)

2 (w/50)^{-1.3} (coastal)

w = Roughness factor

= Standard deviation of the elevation changes sampled at each mile from mile

2 to mile D-1.

F = Frequency in GHz.

D = Path length, miles

CFM = Composite Fade Margin.

The Composite Fade Margin (CFM) is derived by the following formula (exclusive of interference):

CFM =-10 log (10^{-DFM/10} + 10^{-TFM/10})

Where:

DFM = Dispersive Fade Margin,

TFM =Thermal Fade margin (in the case of space diversity, use the larger of the primary and secondary path thermal fade margins).

If space diversity is required to meet the specified outage objectives, the following formula shall be used to calculate the Space Diversity Improvement Factor:

 $I_s = 7 \text{ x } 10^{-5} \text{ f } v^2 \text{ s}^2 10^{\text{CFM}/10}/\text{D}$

Where:

s = Vertical dish spacing, feet

v²= Log⁻¹ (CFM difference, main – div)/10

Source: A. Vigants, Space Diversity Engineering, BSTJ, Vol 54, No. 1, Jan. 1975

4.3.3.2 Errored Seconds (ES) – Single Hop

The percentage of ES shall not exceed 0.0005% measured over any 7-day period (30 ES allowed in a 168 hour period) during the first year of service, on a 1-way, 1-hop system, including radio fading effects and equipment degradation but excluding maintenance actions.

4.3.3.3 Reframe Time

The average recovery time of the radio from an out-of-frame and out-of-synchronization condition to the reframed and synchronized condition shall be 0.25 seconds or less. No more than 5% of the recovery times shall exceed 0.5 seconds. The maximum recovery time shall not exceed 2 seconds.

4.3.4 Electromagnetic Interference

Shielding and filtering shall be provided to prevent interference from or to other radio frequency equipment installed near or in the vicinity of the proposed equipment. Non-type certified devices with restricted or incidental radiation (multiplexers, modems, computer, etc.) shall meet or exceed spurious frequency emissions, conducted or radiated, as outlined in Part 15 of the FCC Rules and Regulations, Subpart J. for Class A Computing Devices.
All equipment (FCC type certified and Part 15 types) shall be operationally compatible with the following types of equipment located at a distance of three meters or greater:

- A. 40/150/450/700/800 MHz Base Stations/Repeaters
- B. FM Translator Equipment
- C. TV Translator Equipment
- D. Low-Power TV Transmitter
- E. VHF Mobile Base Stations
- F. UHF Mobile Base Stations
- G. VHF/UHF Vehicular Mobile Units
- H. VHF/UHF Hand-held Radios
- I. Transfer Trip Equipment

Bidder shall provide documentation to support claims of meeting FCC Class A emission levels for previously tested for emission level all non-type certified equipment proposed. If the equipment has not been compliance, then Bidder shall measure and supply data showing the RFI levels for Purchaser's review.

Interference to adjacent equipment caused by radio frequency emission from Contractor supplied equipment at levels in excess of FCC type certification or Part 15 Class-A Standard shall be mitigated at Contractor's expense for a period of two years after final acceptance of system.

Operation of the equipment specified in this Section shall not cause BER degradation or spurious alarms to the microwave equipment or multiplexers. These sources may include the occasional use of hand-held VHF, UHF or 700-1000 MHz portable radios by technicians working in the equipment shelters. Transmit output power of hand-held radios will be limited to 5-watts at the antenna ports. Corrective measures to eliminate interference from external equipment shall be made at Contractor's expense. It may be assumed that responsibility for ensuring that external equipment, not provided by Bidder, is operating within its specifications, will be undertaken by County or others.

Contractor shall use shielded and grounded coaxial and twisted-pair cable for intershelf wiring of equipment.

4.3.5 Physical Conditions

4.3.5.1 Environmental Conditions

All equipment supplied by the Contractor shall function properly and meet all specifications under the following environmental conditions:

- All equipment, except for the antenna feeder system, will be installed indoors.
- The equipment supplied by the Contractor shall meet the following ambient:

- Full performance	0°C to 50°C
- Minor degradation	-5°C to 55°C (1 dB change in 10-6 BER threshold)
- Storage	20°C to 55°C

- Altitude

to 12000 ft. (full performance)

• The equipment shall be installed to meet Seismic Category E requirements.

4.3.5.2 Equipment Mounting and Power

- A. All equipment shall be installed in, 19-inch wide, EIA steel racks. Four-post racks are preferred to improve seismic survivability if they provide proper equipment and waveguide clearances for maintenance and service.
- B. Rack heights shall be determined during site walks and appropriate for the existing site conditions. It is desirable that new racks match existing racks when possible.
- C. Racks shall be secured to floor at four points (minimum) using approved anchoring techniques. Twodimensional cross-bracing shall be installed between the top of racks and cabinets and structural ceiling or wall members to prevent tipping and excessive sway. Flexible techniques may be approved in limited situations. Securing rack or cabinets to cable ladders or trays shall only be approved in limited situations and must be approved in advance.
- D. Adjacent racks and cabinets shall be secured or bolted together at two points (minimum).
- E. Refer to Section 6.3.6 for DC power components in each rack.

4.3.5.3 Equipment Arrangement

The equipment in each rack shall be arranged to permit ease of operation and maintenance. Display/control panel placement shall be at a convenient operating height such that there is no interference to the maintenance and operation of equipment.

The addition of modules and equipment in order to bring the system to full capacity shall be considered in the rack layout, if applicable. The common equipment shall be wired and ready to accept the additional equipment.

4.3.5.4 Equipment Grounding and Bonding

- A. A Rack Bonding Bar (RBB) shall be provided on each rack or cabinet as a bonding termination point for this equipment and/or secondary surge protective devices. The RBB shall be a constructed from solid copper, tin-plated copper or copper alloy
- B. Each individual piece of equipment and/or secondary surge protective devices mounted in a rack or cabinet shall be connected to the RBB using two-hole (when available), or single hole lugs.
- C. Equipment bonding conductors shall be green #6 AWG stranded copper conductor (minimum). If the conductor length must exceed 13 feet before it terminates to a bonding bus or conductor, the conductor shall be increased in size according to the Table below.

CONDUCTOR LENGTH	CONDUCTOR SIZE
Less than 13 feet	6 AWG
14 to 20 feet	4 AWG
21 to 33 feet	2 AWG

- D. The RBB shall be bonded to the internal bonding and grounding system using a green stranded #2 AWG (minimum) conductor. Bonding conductor connection to the RBB shall be made using a two-hole lug. The RBB bonding conductor should be free of splices.
- E. The bonding conductor shall be routed towards the internal bonding and grounding system infrastructure with no sharp bends or narrow loops and with the shortest and straightest routing path practicable.
- F. At least one rack equipment mounting rail, as well as any cabinet structure shall be bonded to the RBB using a green #6 AWG stranded copper conductor (minimum). This conductor may also be routed directly to the internal bonding and grounding system using a green stranded #2 AWG (minimum) conductor.
- G. Lugs as well as any bonds to the RBB grounding conductor must use irreversible compression crimps or exothermic welds. The use of clamps to bond any grounding conductor shall not be acceptable.

4.3.6 Microwave Equipment Requirements

4.3.6.1 General Requirements

The Specification covers the requirements for digital microwave equipment to operate in the 6 GHz and 11 GHz frequency bands for various paths. Equipment shall be suitable for two-frequency, full-duplex operation.

Bidder shall describe and quote an alarm and control subsystem. Proposed equipment shall be rack mounted and fully assembled, wired, configured and tested.

Test equipment, fixtures and special tools or equipment required for the installation, operation, and maintenance of the proposed equipment shall be itemized with cost quotes.

1. "-----

4.3.6.2 Specifications Deviations

If Bidder has reason for deviation from the standards specified in 1.4.1, Bidder shall state in the proposal the nature of the change and justification for making the same. County reserves the right to reject the Proposal based upon such exception(s).

4.3.6.3 FCC Type Certification

Microwave equipment and technical specifications shall have been type certified by the Federal Communications Commission under Part 101 of the Rules and Regulations.

Bidder shall state FCC Identification and Type certification Number of the equipment proposed. The occupied bandwidth and emission designator shall also be stated.

4.3.6.4 Part 15 Compliance

Non-type certified equipment shall comply with the requirements of Part 15 of FCC regulations, including Subpart J, Class A computing devices, for electromagnetic interference.

4.3.7 Transmission Requirements

The equipment supplied shall comply with all Rules, Regulations, and Standards of FCC Part 101. The supplied equipment shall fully comply with the sections applicable to the following standards:

- Bell Communications Research Technical Advisory TA-TSY-000752, Microwave Digital Radio System Criteria, Issue 1.
- Bell Communications Research Technical Reference TR-TSY-000499, Transport Systems Generic Requirements, Common Requirements, Issue 2.
- Bell Communications Research Technical Reference TR-TSY-000009, A synchronous Digital Multiplexes, Requirements and Objectives, Issue 1, May 1986.

Proposed equipment specifications should comply with the stated requirements. However, if there is any disparity, the Bidder shall explain how the equipment satisfies the intent of the particular requirement, and how the end objective will be met. In all cases, the Purchaser reserves the right to enforce the stated requirements. In addition, the Bidder may be required to demonstrate compliance with any requirement.

4.3.7.1 General Requirements

- A. Frequency Band: 5925-6425 MHz / 6525-6875 MHz / 10700 11700 MHz
- B. RF Bandwidth: 30 MHz
- C. Transmission Parameters
 - 1. Digital Transmission Rate: OC-3 rate minimum
 - 2. Type of Modulation: 128 State QAM
- D. Environmental and Physical Parameters
 - 1. The microwave transceivers for all-indoor radio configurations shall be fully operational within the temperature range of -0° C to +50°
 - 2. The baseband indoor unit including layer 2 switch and chassis for tributary cards (IDU) shall be fully operational within the temperature range of -40° C to +65° C.
 - 3. The microwave radio equipment shall employ a modular design. The all-indoor configuration shall accommodate minimum two radios transceivers in one chassis (for either dual 1+0, 2+0 or 1+1 systems).
 - 4. The microwave radio equipment and all its systems and components quoted shall be fully selfcontained and mount in standard ANSI/EIA 310 equipment racks.
 - 5. The waveguide interface for the all-indoor microwave equipment shall be the CPR type of the appropriate size for the selected frequency band. Contractor shall note if this is not the case, and shall include the required transition pieces in their proposal.
 - 6. The radios shall be NEBS Level 3 compliant.
 - 7. Contractor shall provide a certificate from a recognized laboratory of NEBS Certification. Contractor shall provide a copy of the NEBS tests and results at the request of County.
- E. Vibration

The radio, when mounted in an optional seismic style relay rack, shall meet the requirements of GR-63, for seismic and site vibrations. Also, the radio shall be resistant to the effects of mechanical shock (microphonic induced transmission impairments) caused by normal maintenance actions such as unit replacements.

- F. Cooling
 - 1. The radio system shall have self-contained cooling systems to maintain continuous operation and specified performance under environmental temperatures ranging from 0° to 50° C.
 - Fan units shall have redundant fan assemblies such that failure of an individual fan motor/blade assembly does not cause an interruption of traffic or degraded performance of the radio system. Such fan assembly failures shall also generate an alarm – both locally via contact closure as well as through the network management channel.
- G. Electromagnetic Compatibility

The radio equipment shall be designed to operate in a communications equipment environment installed in or near the vicinity of other types of equipment which may include other digital radio equipment, fiber optic terminal equipment, FDM analog microwave, VHF\UHF base stations, transfer trip and power line carrier equipment and telephone signaling equipment.

- H. Power Requirements
 - 1. The microwave radio equipment shall operate from a nominal -48 VDC power source per ANSI/T1 315.
 - The microwave radio equipment shall allow the "hot" insertion and removal of radio transceiver, modem and tributary cards without service interruptions or damage to themselves or other modules. The radio shall also be capable of "hot" insertion and removal of an out-of-service common equipment module.
 - 3. The microwave radio equipment shall restart with no loss of provisioning for interfaces and traffic cross-connections upon the loss and regaining of power.
- I. Alarms and Status Indications

Each microwave radio equipment module shall have a visual alarm/status indication noting either "normal" or "alarm" condition. A summary remote alarm shall be available via dry contacts (Form C) indicating, as a minimum, microwave radio equipment alarm conditions for the following:

- 1. Critical Alarm
- 2. Major Alarm
- 3. Minor Alarm
- J. Link and Network Topologies & Protection
 - 1. The following supported configurations shall be supplied:
 - a. 1+0 (non-protected, single channel)
 - b. N+0 (non-protected, multi-channel)

- c. 1+1 Hot Standby
- d. 1+1 Hot Standby with Space diversity
- e. Space diversity receiver switching shall be errorless
- f. Ethernet Linear & Ring Protection with sub-50 millisecond switching using industry standard, nonproprietary methods, such as ITU G.8031 and G.8032, respectively.
- g. The radio shall support port or card level redundancy by software control (when appropriate hardware units are equipped).
- h. The radio shall support optional redundancy of system control and switching fabric.
- K. RF Specifications and Features
 - 1. All-indoor radios shall meet the following:
 - a. Transmitter output power (typical at 128 QAM in a 30 MHz channel and with reference to the output port of the transmitter unit)

Frequency Band	Minimum TX Power
Lower 6 GHz, Std. Power	+28 dBm
Lower 6 GHz, High Power	+32 dBm
Upper 6 GHz, Std. Power	+28 dBm
Upper 6 GHz, High Power	+32 dBm
11 GHz	+29 dBm

- L. Radio shall offer narrow band RF filtering that enables co-polar channel stacking with 60 MHz separation (with reference to a 30 MHz channel i.e., stacking of second adjacent channel on the same antenna polarization)
- M. Stacking shall not require that the radios be placed more than 1 rack unit (1 ³/₄ inch) apart when mounted in a relay rack.
- N. Independent local oscillators on the transmitter and receiver to enable non-standard pairing of transmit and receive frequencies.
- O. RF Switch for hot standby TX configuration
- P. Auto-tuning when spare unit is installed
- Q. Standard transmitter-receiver filtering and combining using an integrated diplexer.
 - 1. Option for transmitter-receiver filtering and waveguide branching that allows stacking of multiple radios on the same antenna/waveguide system
 - 2. Option for waveguide branching to provide RF Expansion Ports for stacking radios of additional radios in the future.
 - 3. Frequency stability shall be +/- 6 ppm

4. The radio shall support Automatic Transmitter Power Control with independently variable maximum, minimum, and operational threshold settings, all adjustable in 1dB steps. Range may be variable based on modulation setting, but in any case, shall be no less than 10 dB.

4.3.7.2 Transmitter and Receiver Branching

Bidder shall state the configurations and the corresponding losses of the transmitter and receiver branching networks as proposed, and available as optional equipment.

4.3.7.3 Jitter Requirements

Radio terminals and multiplex shall meet the requirements outlined in Bellcore Technical advisory TA-TSY-000752, Issue 1, December 1988, for the following:

- A. Jitter Accommodation (TA Section 5.1)
- B. Jitter Generation (TA Section 5.2)
- C. Jitter Transfer Functions (TA Section 5.4)
- D. Jitter Enhancement (TA Section 5.5)

4.3.7.4 Antenna System Return Loss

There shall be no Receiver Desensitization from the Antenna/Waveguide Return Loss up to 13 dB.

4.3.7.5 Equipment Reliability

Each radio transceiver pair shall have a MTBF rate of at least 25,000 hours based upon failure data. In lieu of adequate field data for equipment recently placed into service, Bidder may show a calculated MTBF from MIL-STD 217B or TR-TSY-000332, clearly stating what factors have been used.

4.3.7.6 Electromagnetic Shielding

All equipment furnished under this specification shall meet the electromagnetic interference requirements described in Section **Error! Reference source not found.**.

4.3.7.7 Thermal Shock

Equipment shall comply with the thermal shock test requirements established in Bellcore Technical Advisory TA-TSY-000752, Section 17.

4.3.8 Packet Features and Specifications

4.3.8.1 Layer 2 Packet Switching

The radio shall employ a Layer 2 packet switch with a capacity of at least 16 Gb/s for an N-way nodal radio. The packet switch fabric shall have the option of being made redundant.

4.3.8.2 MEF 9 & 14 Compliance

The radio shall be MEF 9 and 14 compliant.

4.3.8.3 Packet Features and Options

Packet features and options shall include, but not limited to:

A. VLAN

Port-based VLAN

802.1Q Tag-based VLAN

VLAN steering

B. QoS

Strict Priority, D-WRR with Bandwidth Management (Minimum rate guarantee, maximum rate limitation)

Classification: VLAN CoS/Diffserve

C. Ethernet Protection Protocols

Ethernet Line Protection (G.8031)

Ethernet Ring Protection (G.8032)

D. Ethernet Synchronization:

SyncE

1588v2

E. Operation, Administration, and Maintenance (OAM) Ethernet OAM (IEEE 802.1ag, ITU-T Y.1731)

4.3.8.4 Ethernet Ports

The core Ethernet switch shall provide a minimum of 5 Ethernet ports:

- A. Minimum of 4 ports with RJ45 (10/100/1000Base-T) interfaces.
- B. Minimum of 1 port supporting Small Form Pluggable (SFP) SX, LX, BX, ZX interfaces.
- C. The SFP and RJ45 operation may be on an exclusion basis provisioned via the EMS or craft interface terminal.
- D. Additional Ethernet ports may be enabled by insertion of optional Ethernet tributary cards:
- E. The Ethernet tributary card shall provide a minimum of 8 Ethernet ports:
- F. Minimum of 4 ports with RJ45 (10/100/1000Base-T) interfaces.
- G. Minimum of 4 ports supporting Small Form Pluggable (SFP) SX, LX, BX, ZX interfaces.
- H. Ethernet tributary cards shall have their own Layer 2 switch capability with capacity of at 16 Gb/s.
- I. The radio shall be able to support at least 2 Ethernet tributary cards.
- J. Ethernet tributary cards shall have the option of being made 1+1 redundant, and offering full 1+1 redundancy on the Ethernet backplane and 1+1 redundancy on the SFP ports

4.3.9 Grounding

- A. The positive (+) 48 VDC connection (return) shall be isolated from the equipment rack to eliminate ground loops.
- B. Equipment grounding and bonding comply with Section 4.3.5.4.

4.3.10 Physical Conditions

4.3.10.1 Environmental Conditions

Equipment shall function properly and meet all specifications under the following environmental conditions:

A. The ambient temperature may range as follows:

Full Performance:	-30 deg. C to +55 deg. C (Outdoor RF/Assy.)	
	0 deg. C to +40 deg. C (Indoor Assy.)	
	-40 deg. C to +65 deg. C (storage)	

- B. Humidity may range from 10% minimum to 95% (non-condensing) maximum at 40 degrees C.
- C. The equipment may be located at an altitude of up to 6,000 ft. (1,829 meters).
- D. The signal, power, alarm and control connections between indoor and outdoor sections (if applicable) shall be made using one coaxial cable per transmitter/receiver pair, i.e., one coaxial cable for the main transmitter/receiver, and a second coaxial cable for the standby transmitter/receiver.
- E. Each 19-inch rack shall be equipped with:
 - 1. Fuse, Alarm and Distribution Panel capable of distributing two independent -48 VDC power circuits to the A and B radios, multiplex and orderwire.
 - 2. Frame Ground Lug.
- F. With the exception of coaxial connections, terminal blocks or jacks and plugs shall be provided for all external connections.
- G. The mounting holes in the rack feet shall accommodate 3/8-inch diameter bolts.

4.4 Microwave Antenna Systems

4.4.1 General

Contractor shall be responsible for the selection, sizing, purchase and installation of the antenna, waveguide or coax feeders and supporting hardware at all sites. Microwave dishes must be constructed to withstand the desert environment. CommScope ValueLine antennas, as well as any antenna utilizing a plastic feed horn are not acceptable.

4.4.2 Antenna Specifications

4.4.2.1 Return Loss – Antenna Feeder System

The antenna and feeder provided shall have a combined return loss 23 dB or greater.

4.4.2.2 Antenna and Waveguide Flange

The feeder connectors may be untuned, except that tunable connectors connected to the waveguide on one end, swept and tuned to the operating frequency may be selectively used to meet the antenna feeder system return loss requirements.

4.4.2.3 Radomes

Contractor shall use unheated radomes to reduce the effects of wind loading on the tower. Radomes shall either be hard-cover or Teflon-based, radomes using Hypalon are unacceptable.

4.4.2.4 Antenna Mounts

- A. The antenna mounts shall be equipped for continuous adjustments of + 5 degrees minimum in both horizontal and vertical directions.
- B. The adjustment's mechanism shall be designed so that the antenna is fully supported during the adjustments.

4.4.2.5 Wind Loading

The antenna and supports shall be designed to operate in 125 miles per hour winds with no more movement which would cause the signal to degrade more than 3 dB as specified in TIA-222-H.

4.4.2.6 Grounding

Antenna ground shall be connected to the primary tower ground.

4.4.3 Waveguide

- 4.4.3.1 Feeder Type
 - A. Contractor is responsible for establishing the correct lengths between the antenna and radios as well as the installation of the feeder system.
 - B. All exposed antenna hardware must be S31600 stainless steel, brass, or C65100 low silicon bronze. Hot dip zinc galvanized steel meeting ASTM A-123, A-153, A-385 and B-695 may be used for mounting brackets.
 - C. Waveguide runs for 6 GHz microwave links shall be Commscope EW63 elliptical waveguide with CPR137 flange connectors. Waveguide runs for 11 GHz microwave links shall be Commscope EW90 elliptical waveguide with CPR90 flange connectors. The antenna and feeder provided for each path shall have a combined return loss greater than or equal to 22 dB.
 - D. The waveguide feeder connectors may be untuned, except that tunable connectors connected to the waveguide on one end, swept and tuned to the operating frequency shall be used to meet the antenna feeder system return loss requirements if required. All connectors shall be manufactured by the waveguide manufacturer.
 - E. The use of any adapters and/or splices is prohibited.
 - F. All waveguides must be secured with the waveguide manufacturer's recommended stainless steel hardware, with appropriate tower mounting hardware, and supported by waveguide/ transmission line bridges that will be supplied as part of this procurement. Hangers used to support waveguide on transmission line bridges transmission line ladder, and other locations where support members with mounting holes are used shall attach to support members with a bolt installed through the mounting hole

and a lock washer and nut on the back side of the support member. "Snap-in" hangers are not permitted.

- G. Provide Valmont Structures® waveguide entries (or approved equivalent) for the waveguides, as determined during site walks.
- H. To ensure that antennas and waveguides meet specifications after installation, test antennas and transmission lines as described in Section 4.6.6.1. Submit a detailed test plan to County for approval in advance of these tests. Record and sign tests and present tests to County in printed format.
- I. Antenna mounting structures and devices shall be mechanically compatible with the existing towers as constructed and shall be adequate to support each antenna on the tower.

4.4.4 Grounding

- A. Waveguide and coaxial ground kits shall be designed for the type of cable and installed according to manufacturer specifications. Kit conductors shall be #6 AWG or larger.
- B. Each shall be sealed from the weather to prevent water and corrosion damage to the cables. Ground kits shall be installed per Andrews Corporation bulletin 37211D.
- C. Ground kits shall be installed at the following locations:
 - Main line coax and waveguides near the top of the vertical run, near the antenna
 - On the input coax to tower-mounted outdoor RF units
 - Bottom of the tower above the vertical-to-horizontal transition point
 - Near the building, shelter, equipment housing or cabinet entry point
 - Indoors, as close to the entry port as possible
- D. Indoor ground kits shall attach to an interior ground bar connected directly to the grounding electrode system. Outdoor ground kits shall bond to the External Ground Bus bar (EGB) if installed or directly to the grounding electrode system.
- E. Kits shall be installed to ensure a continuous downward flow toward the grounding electrode system is maintained. They shall use continuous lengths of wire supplied by the manufacturer as part of the ground kit. Splices in ground kit wires are not permitted.
- F. If the tower is greater than 200 feet in height, an additional ground kit shall be installed at the tower midpoint. At sites identified by the County as having a history of lightning activity, ground kits should be installed at spacing between 50 to 75 feet.

4.4.5 Pressurization System

- A. All transmission lines connecting the radio equipment RF output to the antennas shall be pressurized by dry gas, and developed by dehydrated air compressor systems. The pressurization system shall be designed to accommodate a minimum of twice the initial volume calculated for the County microwave system.
- B. Altec P208W dehydrator or approved equivalent shall be used. Unit shall be connected to the -48 VDC supply system.

C. The contractor shall locate a suitable place to locate the dehydrator based on available space and minimizing air line runs.

4.4.5.1 Output Manifold

The output manifold shall be equipped for a minimum number of pressure gauges and shut off valves based on the number of initial waveguide runs, or four, whichever is greater, but expandable up to sixteen transmission lines.

4.5 Backhaul Network Management

4.5.1 General

- A. The Backhaul Network Management System shall be provided as a service. It will support the microwave radio system and other specific site components as specified herein. Such functionality may be provided on an integrated radio and backhaul NMS (radio NMS functionality is described in Section 3.5.10).
- B. Eligible providers would include the radio system administrator (for leased options) or a communications manufacturer or contractor, recommended by the system administrator.
- C. The microwave radio equipment shall have sufficient card level diagnostics and alarm, control and metering capabilities so that qualified technicians can rapidly detect and switch off-line defective or failing components and remotely monitor radio status and performance.

4.5.2 Communications

- A. The connection between the NMS server, hosts and microwave stations supplied under this contact shall not utilize production traffic bandwidth that could be interrupted. "Out-of-band" communication channels shall be used, when possible, on the paths supplied under this contract, and over legacy paths to the degree possible and practical.
- B. The expected capabilities the NMS are described in the following Sections.
- 4.5.3 Management System Support
 - A. The microwave radio equipment shall have remote access capability for diagnostics, monitoring of performance metrics and configuration data and remote configuration. The microwave radio equipment diagnostics, monitoring of configuration data and configuration shall be locally accessible via a laptop computer using a web browser.
 - B. Radio terminals shall have an Element Management System (EMS) or Microwave Craft Terminal (MCT) software for both local and remote operations, administration, maintenance and provisioning (OAM&P) of the complete radio system as a single Network Element (NE) whether comprised of a simple terminal, and repeater, or a N-way hub.
 - C. The EMS shall be capable of end-to-end, point and click circuit provisioning of all traffic interfaces (radio, Ethernet and TDM) as well as service cross-connections.
 - D. The radio shall be capable of reporting alarm, status conditions as well as performance monitoring and diagnostic information to external Network Management System(s) via SNMPv2.

4.5.4 Network Management Interfaces

- A. The radio shall have a choice of network management system interfaces equipped integral to the radio terminal. These choices shall include, as a minimum, a parallel interface, a serial interface, and an SNMP interface.
 - 1. Parallel Interface The parallel network management interface shall provide dry contact relay contact closures to ground for the radio alarms and radio remote control inputs allowing use of third party network management remotes and masters. The Contractor shall describe the specific alarm and control points supported through this interface.
 - 2. Serial Interface The serial network management interface shall provide network management alarm, control and performance monitoring features allowing automatic reporting to a serial master station. The telemetry channel shall be digital and operate at 64kb/s and be independent of the radio traffic. This interface shall be capable of also reporting alarms for external equipment and station housekeeping (user defined alarm points) as well as providing remote control capability for external equipment (user defined). The Contractor shall describe the type of serial interface, the specific alarm, control, and performance monitoring parameters supported through this interface, including the number of points, and the data rate of the service channel.
 - 3. SNMP Interface The radio shall provide an SNMP network management interface capable of providing alarm data for the radio. The interface shall be compliant with version 2.0 and 3.0 of the SNMP standard. The Contractor shall state the specific alarm points supported.

4.5.5 Local Display and Control Panel(s)

Each of the alarm, control and metered points on the local display panel shall meet the following requirements.

4.5.5.1 Alarm Outputs

Alarm conditions shall be presented on the local display panel in the radio equipment rack in full view of maintenance personnel. The status and alarm indications shall be arranged so that they can easily be traced to the proper section down to card level in the radio or multiplex equipment. The following color scheme shall be used for alarm indications.

- a. Fault Condition or Major Alarm Red (affects service)
- b. Normal Condition or No Alarm Green or off (red, if performance is affected)
- c. Marginal Condition or Minor Alarm Yellow (red, if performance is affected)
- d. Guard Condition White

The local alarm display shall indicate local and remote alarms clearly indicating failed or degraded units to the card level.

4.5.5.2 Control Inputs

The display panel shall provide a means to locally and remotely manually switch transmitter and receiver chains and modules on and off line. The display panel shall provide visual indication of manual and automatic control actions, as well as the on-line status of all modules.

4.5.5.3 Local and Remote Indications, Functions and Operation

Bidder shall provide a complete itemized list and description of the indications, functions and operation of local and remote alarms, control and metering panel(s) provided as standard equipment. Available options and

associated costs shall be similarly presented. As a minimum, local and remote RSL and noise floor (current and historic), transmitter output power, and BER monitoring on the display panels is required.

4.5.5.4 Integral Alarm, Control and Metering

If the proposed digital radio system has been designed with an integral alarm and control system, provide the following information:

- Alarm, status and control functions available from each site.
- Analog levels available from each site.

4.5.5.5 External Alarm, Control and Metering

Alarm, control and metering points shall be provided for County to remotely monitor and control the microwave radios through an external alarm and control system.

4.5.5.6 Remote Alarm and Status Outputs

State the remote alarm and status outputs available and the interface (i.e., dry contact, TTL, etc.)

4.5.5.7 Remote Analog Outputs

State the analog outputs available and the interface (i.e., voltage range, polarity, linearity, etc.). Each analog output shall be isolated so that battery voltage or ground will not affect the radio performance.

4.5.5.8 Remote Control Inputs

State the remote control inputs available and the interface requirements.

4.5.5.9 Integral Alarm, Control and Metering

If the proposed digital radio system has been designed with an integral alarm and control system, provide the following information:

- Alarm, status and control functions available from each site.
- Analog levels available from each site.

4.6 Microwave System Implementation

The Contractor shall supply a Microwave System Project Manager who will be the single point of contact for the contractor. County will supply a Project Manager as well who will act as the single point of contact on behalf of County. Upon contract execution, the contractor and County will hold a kick-off meeting to discuss the project's scope, schedule, risk items, and quality goals. A list of action items will be developed and maintained by the contractor's Project Manager who will track these items and provide updates on a weekly basis. Project update calls and/or meetings shall be held on a periodic basis, the frequency of which will be determined during the kick-off meeting.

4.6.1 Factory Test Program

The factory Test Program shall consist of Pre-Factory Acceptance Test (Pre-FAT) followed by a Factory Acceptance Test (FAT).

4.6.2 Pre-Factory Acceptance Test

The Pre-FAT shall be successfully conducted by Contractor's qualified personnel before the FAT can be scheduled. Contractor shall provide the test equipment and personnel for the Pre-FAT. Contractor shall send a

formal notification of the successful implementation of all required tests, and a complete report documenting the test results (see Section 4.6.3 below). County will review and confirm the results within five working days of receipt. Test results determined to be incomplete or non-compliant shall be rejected and the tests repeated. County's Representative(s) will travel to Contractor's factory for the regular FAT within 10 working days of confirmation of the successful performance of the Pre-FAT.

The following tests and measurements in this Section shall be performed in the Pre-FAT.

4.6.2.1 Standard Factory Test

Contractor's standard factory test procedures, including panel and system test, shall be carried out and the test data recorded.

4.6.2.2 Continuous 24-Hour Elevated Temperature Tests

After the standard tests are completed, each hop of equipment shall be connected back-to-back in an environmental chambers whose temperature and relative humidity shall be held constant at 40°C and 10%, respectively. The radio hop shall be simulated by variable RF attenuators, test cords and waveguide as required for a normal received signal level of about 15 dB above the 10-6 performance level. The elevated temperature tests shall be performed "hands-off" with measurements made end-to-end at the DS1 or DS3 level. The following tests shall be implemented successfully for a continuous 24-hour period.

Bit Error Rate (BER)

The BER shall not exceed 10-12 (maximum of 4 bit errors allowed at DS3, one at DS1).

Severely Errored Seconds (SES)

There shall be no SES recorded.

Frame-Lossed Seconds (FLS)

There shall be no FLS recorded. A frame-loss second shall be defined as a 1 second interval within which a loss-of-frame condition exists or the BER is 10-3, or greater.

Transmitter Output Power and Operating Frequencies

The transmitter output power and frequency of each transmitter and receiver shall be recorded and meet specifications at 4 hour intervals.

4.6.2.3 Test Equipment for Pre-FAT

Contractor shall provide test equipment which can monitor and provide a real-time, hard-copy record of the number of bit errors.

4.6.2.4 Testing of Spares

All spare units furnished by Contractors shall be fully tested on a panel basis and then substituted into appropriate equipment positions to ensure interchangeability. Spares shall be operated in other equipment or on bench for at least 24 hours before the start of the Factory Acceptance Test to eliminate early failure problems.

4.6.2.5 Pre-FAT Report

Prior to the start of the Factory Acceptance Test, Contractor shall provide County with a report which shall include the following:

- A. Standard Factory Test Results
- B. Continuous 24-Hour elevated Temperature Test Data and Equipment Failure Report.

C. Finalized Equipment List

4.6.3 FACTORY ACCEPTANCE TEST

After confirmation of the successful completion of the Pre-FAT, County's Representative(s) will travel to Contractor's factory to witness the FAT. County's Representative(s) will give the acceptance for delivery of the equipment to County's location upon verification of satisfactory FAT results.

Contractor shall provide all necessary test equipment and personnel for the FAT. The test results shall be clearly documented and meet the requirements specified in the document. One copy shall be included with each technical manual.

The equipment for each individual hop shall be tested back-to-back at room temperature, as in the Pre-FAT. All other Contractor supplied items not previously integrated into the radio assemblies shall be wired and tested together with the main equipment. Where applicable, the tests shall be performed for all transmitter to receiver combinations (time permitting), otherwise combinations will be chosen at random.

The FAT shall consist of the standard factory systems tests and the following optional test and measurements as dictated by the County:

- A. Random Verification of Standard Factory Test Data
- B. Overnight Performance Tests (12-Hour Minimum at DS3 Rate)
 - 1. BER Monitor

The BER shall be measured and recorded at a RSL of about 15 dB above the 10-12 performance level (2 bit errors allowed at DS3, none at DS1).

2. Errored Seconds (ES)

The number of ES shall be measured and recorded at a RSL of about 15 dB above the 10-6 performance level.

3. Severely Errored Seconds (SES)

The number of SES shall be measured and recorded at an RSL of about 15 dB above the 10-6 performance level. There shall be no SES.

4. Frame Loss Seconds

No frame loss seconds shall be accepted.

5. Transmitter Output Power and Frequency Stability of Transmitter and Receivers

The transmitter output power and operating frequency of each transmitter and receiver shall be recorded and meet specifications at the start and completion of the overnight performance test.

C. Bit Error Rate Performance and Threshold

Contractor shall measure the hop's Bit Error Rate (BER) performance at various RF received signal levels. The test shall show at what RSL the BER degrades to 10-3, and 10-8.

- D. System Gain and Thermal Fade Margin
- E. Dynamic Range

- F. Protection Switching Logic
- G. Radio Alarm and Control Indications
- H. Multiplex alarm and Control Indications
- I. Remote Alarm, Control and Metering Operation
- J. Random Substitution of Spares
- K. Mechanical Stability and Microphonics
- L. Recovery Time from a Short Transient System Disturbance and Prolonged RF Outage (1 minute)
- M. Reframe and Resynchronization Times
- N. Maximum Switching Time and Incurred Bit Errors of the Receivers, Transmitters, and Transmit and Receiver Multiplexers Switching to the Protection Unit (under the following conditions):
 - 1. Automatic Transfer
 - 2. Manual Transfer
- 4.6.3.1 Microwave Radio System Installation-General
 - A. The Contractor is fully responsible for configuring and commissioning the furnished equipment and related accessories, and assisting with the equipment's interface to other existing systems as specified herein.
 - B. The Contractor is responsible for providing all materials, cabling/wiring, labor, tools and instrumentation to ensure a complete and successful commissioning. All tools and instrumentation shall be considered to be normal and customary items owned by the Contractor.
 - C. All work related to the installation and commissioning will be supervised and performed in accordance with the manufacturer's recommendations and the installation standards of County. In the event certain aspects of the manufacturer's recommendations and the installation standards of County conflict, the most stringent practices shall prevail.
 - D. Prior to the commencement of site work, the Contractor shall coordinate with the county or their representatives, as well as County's staff to assure compliance with any special provisions applicable to the site.
 - E. Placement/mounting of equipment or related accessories on the racks or cabinets shall be approved by County prior to beginning parts procurement activities.
 - F. Electrical work shall be performed in accordance with County's standards, and with national, state, and local electrical codes, and applicable industry standards, as required. Contractors are responsible for connecting all furnished equipment to the existing electrical outlets. Contractor shall advise County when additional circuits or outlets are needed.
 - G. All rubbish and debris associated with site preparation, unpacking of shipping materials, and/or the installations related to this project, shall be removed from the premises by the Contractor. Removal of rubbish and debris shall be performed daily.

- H. Contractor shall remove existing County equipment that is to be replaced, including antennas, transmission lines and batteries, prior to Final Acceptance. The equipment shall be returned to County and transported to a location within County's service territory. County will indicate to Contractor which equipment will be discarded by Contractor and which will be returned to County. Disposal costs shall be the responsibility of the Contractor. Disposal will be in accordance with local laws and regulations.
- I. The scheduling of removals and return of the equipment shall occur by mutual agreement between County and Contractor. The Contractor shall be responsible for delivery of the equipment.
 - 4.6.4 Microwave Radio Equipment Installation
- A. Existing microwave radio equipment, waveguide and branching networks, as well as DC power systems (batteries and/or rectifiers) may require temporary relocation to allow new equipment to be installed in their final positions.
- B. Relocated equipment that has the potential for tipping during a seismic event shall be temporarily secured using appropriate strapping or supports.

4.6.5 Microwave Antenna and Waveguide Installation

4.6.5.1 General

Contractor shall install waveguide connectors as specified herein. Hanging hardware is to be furnished by Contractor unless otherwise specified. Contractor to supply and install waveguide grounding kits as specified herein.

- a. Return loss testing will be performed by the Contractor.
- b. Confirm correct antenna polarization and rough alignment.
- c. Align antenna using existing signal from far end of path, using a spectrum analyzer to observe signal level.
- d. Sweep waveguides for return loss and provide sweep results to County. Sweeps for each waveguide to include waveguides terminated with an appropriate load and connected to the antenna.

4.6.5.2 Purging

The transmission line system will be purged to displace all foreign particles and moisture by the Contractor.

4.6.5.3 Grounding

Each waveguide run shall be solidly grounded according to Section 4.4.4.

4.6.5.4 Submittal

Submit for approval descriptive data for all materials to be provided under these specifications. Data shall be sufficient to indicate conformance to all specified requirements and shall be submitted for County approval prior to acquisition.

4.6.5.5 Waveguide

Contractor shall install waveguide from antenna to radios inside the Communications building. Contractor shall verify length prior to installation.

4.6.5.6 Waveguide Supports and Hangers

- A. The contractor shall provide supports and hangers that will adequately support a run subjected to the design wind load and to prevent vibration or shaking. The support shall ensure that no weight or stress is placed on adjoining sections.
- B. All feeder runs vertical or horizontal shall be supported at least every 4 feet with the support on all runs located 1 foot from each end. All supports shall be cushion hangers.

4.6.5.7 Hardware

- A. All ferrous metals used as a part of the transmission line system shall be hop dip galvanized or made of stainless steel or brass.
- B. All screws, lock washers and nuts shall be made from stainless steel or grass waveguide hanger hardware shall be attached by fillister head screws.

4.6.5.8 Feeder Installation

- A. Contractor shall install waveguide, supports, and end connectors in accordance with manufacturer's instructions and as specified herein.
- B. Route waveguide (or feeders to ODUs) from antenna to assigned radio rack inside building as directed by the County.
- C. All waveguide (or feeders to ODUs) shall be labeled at both ends with antenna numbers and destination.
- D. All waveguide runs vertical or horizontal shall be supported every 4 feet with and supports located no more than 1 foot from each end.

4.6.5.9 Corrosion

Contact surfaces of dissimilar metals shall be treated to prevent galvanic corrosion (rust).

4.6.5.10 Brackets and Fasteners

- A. All metal used as part of the antenna system shall be hot dip galvanized or made of stainless steel. Materials shall not be galvanized until all shop operations upon it have been completed, except as specified for nuts.
- B. Galvanizing of shapes and plates shall be in accordance with ASTM Specification A123.
- C. Galvanizing of bolts, nuts, washers, locknuts, and similar hardware shall be in accordance with ASTM Specification A153.

4.6.5.11 Microwave Antenna Installation

- A. Antennas shall be mounted at heights and azimuth as determined by the Contractor.
- B. Antennas shall be installed per the manufacturer's printed installation instructions.
- C. Antennas shall be mounted such that they have tower clearances for adjustment +/- 10 degrees from specified azimuth.
- D. Contractor shall ensure that specified tilt angles of antennas shall be met. Antenna interface mounts may be repositioned under county approval to meet tilt angles.

E. One or more horizontal strut supports shall be provided for antenna having diameters greater than 29". Struts shall be attached between antennas and towers for proper mechanical advantage against wind forces.

4.6.6 Microwave Field Testing

Contractor shall perform field verification test on the system before final acceptance by County. For training purposes, the County may repeat these field verification tests under the supervision of the Contractor. To meet these requirements, the Contractor shall perform, as a minimum, the following tests:

4.6.6.1 Antenna System Return Loss

- A. The Antenna System Return Loss measurements shall be made by the Contractor for each antenna system installed.
- B. Test results where the Return Loss is less than specified shall require that the Contractor replace components (reflange connector, replace flex, etc.) or change the connector to tuned and tune the connector(s) on the feeder.
- C. If the re-tuning does not bring the antenna system into compliance, then Contractor shall replace other faulty components at its own expense.
- D. Antenna lines shall be labelled at the antenna, inside and outside of cable entry port, and at top of rack.

4.6.6.2 Test Reports

Contractor shall present County's Engineer a copy of the Return Loss plots, the factory test plots and a report summary of the testing results.

4.6.7 Antenna Alignment

4.6.7.1 Manpower and Test Equipment

Contractor shall provide the manpower and test equipment to properly align the microwave antennas on all hops covered on this contract.

4.6.7.2 Path Calculation Sheets

Contractor shall supply County the as-built Path Calculation Sheet for each path, which accurately calculates the Receive Signal Level (RSL) to within + 2 dB, prior to the alignment activity.

4.6.8 Measurement Errors

Contractor shall record the maximum RSL after the antenna is aligned and locked down in the horizontal and vertical plane. If the recorded value does no fall into the range specified in Section 4.6.7.2 above, dish misalignments or other antenna feeder system degradation must be explained (reflective path, etc.) or corrected. Slight dish up-tilts may be specified to reduce fade activity on selected paths.

4.6.8.1 Calibration

- A. Prior to aligning the path, Contractor shall verify the power output to the antenna port using a power meter.
- B. Spectrum analyzers and power meters shall all have been calibrated within the past 365 days, and, when measuring the same unmodulated power source, shall not deviate more than + 0.5 dB. (Spectrum

analyzers will indicate digitally modulated radio power levels low by 10 log Baud Rate/BW [analyzer], or about 33 dB low as compared to a power meter).

4.6.8.2 Test Reports

Contractor shall present County's Engineer or Engineering Representative a written report of the path alignment measurements.

4.6.9 Radio Alignment and Field Test Acceptance

4.6.9.1 Test Equipment

Contractor shall provide test equipment and personnel for the turn up of the system.

4.6.9.2 Field Tests

A. Field Verification of Interference Level

Contractor's test personnel shall measure and log any and all signal carriers within, and +/- 10 MHz beyond the receiver bandwidth. The monitor measurement point shall either be after the waveguide port at the RF level or at the IF level prior to the AGC section. This measurement shall be taken with the far end transmitter turned off for each path in each direction. Optionally, the Contractor may conduct IFM (Interference Fade Margin) tests over each link by inserting an attenuator between the distant transmitter and its antenna, then observing less than 1 dB degradation in the local receiver 10-3 or 10-6 BER thresholds.

B. Fade Simulation

To determine the field TFM (Thermal Fade Margin), Contractor's test personnel shall insert calibrated variable attenuator with a range of 0 to 60 dB at a position between the receiver antenna port and down converter.

Contractor's test personnel shall lock on to the receiver under test and attenuate, measure and record the receiver signal level (RSL) at which the BER degrades from 10-6, 10-5 and (10-3 to 10-2 or loss of synchronization).

This test is to be done over each hop and each receiver.

C. Equalization of Space Diversity Antenna Systems

Contractor's test personnel shall adjust the radio's Differential Absolute Delay Equalizer (DADE) circuits for minimum delay difference between the two signals.

D. Frequency Check

Contractor's test personnel shall measure and record the Local Oscillator (LO) frequencies with and without AFC in service. Adjustment shall be made if the oscillators are out of manufacturer's specifications.

After the LO's frequency has been adjusted, it must be measured and recorded in 24 hours to check for drift. If the LO frequency has drifted outside its allowed limits, then it shall be replaced.

E. Transmitter Power Level

Contractor's test personnel shall use an RF power meter to measure and record each transmitter power output with full digital modulation on-line.

Contractor shall have the supervisory system on-line and verify that the alarms are reported correctly. Any errors in alarm reporting shall be noted and corrected.

- 4.6.9.3 End-to-End and Segment Tests
 - A. Once an individual path or set of paths is ready for commissioning, the Contractor shall conduct a longterm test and measurement of the data traffic bandwidth and selected T1 circuits to verify reliable end-toend performance. During this period neither the Contractor nor the County shall affect any changes to the network.
 - B. The duration of long-term tests shall be coordinated with the County, but shall not exceed 30 calendar days.
 - C. It should be noted that the network is not contiguous as it uses bandwidth from several different providers and existing County fiber. This may require testing various system segments separately. These segments may not be contiguous.
 - D. The primary network bandwidth shall be tested in a bi-directional approach to establish typical latency, jitter and packet loss at maximum bandwidth utilization in both directions.
 - E. The data network throughput shall be tested in a bi-directional approach using an Ethernet/IP network data analyzer to validate that the packet transmission quality meets or exceeds the performance of the current network. The tests shall validate at a minimum:
 - Maximum throughput
 - Packet loss
 - Latency
 - Jitter

F.

4.6.9.4 Test Report

Contractor shall present County's Engineer or Engineering Representative a copy of the test results for the traffic circuits.

5. Subscriber Radio Equipment

- 5.1 General
 - A. Radio equipment shall be supplied in quantities indicated in 0 .
 - B. Radios shall be capable of 1.25 kHz or finer channel steps and be capable of operation on any allocated FCC Part 90 and Part 22 center frequency in the specified frequency band.
 - C. Equipment shall be FCC type certified for 47CFR Part 90 and Part 22 operation. Equipment provided shall be configured to comply with operational requirements of the FCC authorization.
 - D. Radios shall be capable of analog FM wideband, NPSPAC midband, FM narrowband, P25 Phase I and P25 Phase II conventional and trunked voice and data operation.
 - E. Subscriber receivers shall operate within full specifications specified herein on the following types of simulcast networks (when applicable):

- 1. Analog FM narrowband (12.5 kHz)
- 2. Analog FM wideband (25 kHz)
- 3. Linear Simulcast Modulation (LSM), HDQPSK or WCQPSK)
- F. The signal-to-noise ratio of speaker or accessory audio for analog and digital operation shall be maintained over the range of volume adjustment. Switching transients, audio white-noise or common hiss shall not be detectable at normal listening levels during reception or idle.
- G. Radio personality and firmware programming shall be programmable using a portable computer, and accessible without requiring the removal of equipment from its mounting bracket or any hardware disassembly.
- H. Radio shall be capable of automatic roaming on multicast or multi-zone simulcast networks. Roaming signal thresholds shall be adjustable within 1 dB steps.

5.1.1 Dispatch Control Stations

- A. Stations shall be rack-mounted models with integral 120 VAC power supplies.
- B. Station TX power shall be adjustable down to five watts.
- C. Stations shall be connected to existing UPS backup power and long-term generator circuits as directed by the County.
- D. Stations shall be configured stand-alone and shall not interface with dispatch workstations.
- E. Control station or associated remote controllers shall be configured to receive and display PTT-ID information and emergency signals. Each shall be equipped to mute and reset emergency signals locally.
- F. Stations or remote controls shall provide a local push-to-talk microphone, local or integral speaker for received audio, and indicators for receive and transmit conditions to allow basic maintenance and trouble-shooting.
- G. Should a particular agency desire to use the control station as its primary dispatch device, the control station transmit and receive audio shall be interfaced to the agency's existing logging recorder system.

5.1.2 Electrical & Mechanical Design

- A. To the greatest extent, all equipment assemblies and sub-assemblies shall be shielded to minimize electromagnetic interference that may be caused to, or received from, co-located electrical equipment.
- B. Radios shall meet the electrical performance requirements of TIA-603D except as detailed herein.

5.1.3 Features & Functionality

- A. Radios shall support the call types described under Section 3.5 for the system. Radio shall additionally support the following features:
 - 256 conventional channels

512 talkgroups

- Monitor button option
- Channel-slaved priority scan
- 12-character alphanumeric display
- Multi-group/zone scan members

- RSSI/signal strength indicator
- Time Out Timer
- Multikey AES256 Encryption (P25)
- 32 channel groups/zones
- Day/night & backlight display option with auto-dimming (remote only
- Simultaneous analog and digital scanning
- Nuisance-channel Delete
- Channel-slaved priority scan
- Multi-group/zone scan members
- Programmable minimum volume level
- B. Volume shall use a rotating knob. Ramp switches are not acceptable.
- C. Display shall show current volume level setting when adjustment is made. Pop-up display messages shall not obscure channel name when changing channels.
- D. GPS, Minimum Volume and Encryption feature configuration and control shall not be accessible on the radio except through radio service software.
- E. Radio shall be equipped with active noise-cancelling capability for both analog and digital transmission.

5.1.4 Specifications

General	
Frequency Range 1 (MHz)	768-776/798-806
Frequency Range 2 (MHz)	806-825/851-870
Programmable Channel Steps (kHz)	6.25
Frequency Spread (MHz)	Full Range
Frequency Stability (+/- ppm)	1.5
Operating Temperature Range (degrees C)	-30 to +60
Transmitter RF Power Output, Range, Watts Automatic power control (if equipped) may vary power level.	5 - 30
Receiver	
Analog Sensitivity, 12 dB SINAD (dBm)	-119
Digital Sensitivity, 5% BER (dBm)	-118
Selectivity, Analog, EIA-603D @ 12.5 kHz, 2 Tone (dB)	70
Selectivity, Digital, TIA 102CAAA (dB)	70
Intermodulation Immunity, EIA-310603D @ 12.5 kHz (dB)	80
Spurious and Image Rejection (dB)	-90
Hum and Noise, Analog (dB), 12.5 kHz	-40

5.1.5 Desktop Remote Features & Functionality

- A. Desktop remotes shall provide full control of the radio specified in the bulletized list in Section 5.1.3, with the exception of the RSSI/signal strength indicator, and Multikey AES256 Encryption (P25) between remote and station.
- B. Remote shall be equipped with a minimum of five custom-assigned buttons.
- C. Display shall show the Unit-ID during reception of an active received call.
- D. Display shall show current volume level setting when adjustment is made.

- E. Minimum Volume feature configuration and control shall not be accessible on the radio except through radio service software.
- F. Remote shall be equipped with active noise-cancelling capability for both analog and digital transmission.

6. Facilities and Infrastructure Development Requirements

- 6.1 General Requirements
- 6.2 Radio Communications Tower Requirements
- 6.2.1 Tower Structure General Requirements
 - A. The Contractor shall be responsible for providing the tower structures and foundations, and for furnishing and installing all associated hardware, lighting and safety systems and appurtenances.
 - B. All work shall be performed in accordance with good engineering practices and comply with all local, State and Federal codes, rules and ordinances. The Contractor is required to adhere to local electrical code and building regulations.
 - C. The towers shall be self-supporting and/or guyed towers constructed with solid or tubular legs, and solid cross members.
 - D. The fabrication and installation of the tower shall include all hardware, brackets, fasteners, climbing and safety systems, ancillary devices such as tower lighting systems, and engineering and installation services required to complete the Project. The Contractor shall be responsible for ensuring that the tower meets all design criteria, labor services, guarantees and installation requirements contained in the Contractor's specifications, or in national or industry standards to which such specification refers.
 - E. The work to be performed shall include site preparation, grading, foundation installation, tower erection including climbing ladders and safety climb system, tower lighting systems, transmission line ladders and transmission bridges, lightning rods, grounding system and ground bus bars, and the touch-up of any scrapes or damage to the protective galvanizing.
 - F. All exothermic welds and any touch up repairs to galvanized components shall be coated using a cold galvanizing compound spray that contains a minimum of 93% zinc such as Rust-Oleum Cold Galvanizing Compound.
 - G. Reference Standards

All materials, design, and construction procedures shall be in accordance with the latest versions of the applicable industry standards, specifications,

- American National Standard for Telecommunications:
- T1.334-2002, Electrical Protection of Communications Towers and Associated Structures

- T1.313-2003, Electrical Protection for Telecommunications Central Offices and Similar Type Facilities
- T1.333.2001, Grounding and Bonding of Telecommunications Equipment
- ANSI–J-STD-607-A-2002, Commercial Building Grounding and Bonding Requirements or Telecommunications
- ANSI/NFPA 780-2004, Standard for the Installation of Lightning Protection Systems
- ASTM Standard A123, A153, B695
- Harris AE/LZT 123 4618/1 Rev. D, Oct-04 Installation Manual
- Motorola Standards and Guidelines for Communication Sites commonly known as "R56" version 68P81089E50-B of 9/1/2005
- Federal Aviation Administration Advisory Circular AC 70/7460-1L
- EIA/TIA-222G, Structural Standard for Antenna Supporting Structures and Antennas, Telecommunications Industry Association (TIA)
- •
- NFPA 70: National Electric Code (NEC) 2008
- NEMA National Electrical Manufacturer's Association
- •
- TIA-1019-A: Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas, Telecommunications Industry Association (TIA)
- •
- •
- OSHA Occupational Safety and Health Standards
 - 29 CFR Part 1010 Occupational Safety and Health Standards
 - 29 CFR § 1910.27 Ladders
 - 29 CFR Part 1926 Safety and Health Regulations for Construction

The Standards listed herein are meant to serve as a guide and shall be superseded by any and all current applicable industry standards and/or local codes at the time of the installation.

6.2.2 FAA and FCC Filings and Authorizations

- A. The Contractor shall be responsible for preparing, filing, and obtaining all FAA Studies, Determinations and site surveys prior to construction, and for the notification of the FAA upon the commencement of construction through the filing of appropriate forms and submittals.
- B. The Contractor shall be responsible for obtaining all FCC environmental studies and any other requirements to obtain an FCC Antenna Structure Registration including the payment to historical organizations such as Indian tribes for towers provided in this project.

6..2.3 Geotechnical Exploration

A. The Contractor shall perform a geotechnical exploration at the locations of each tower foundations. The soil analysis shall include field borings, laboratory testing, and a report containing a summary of the analysis with an evaluation and recommendation for structural foundations.

- B. The geotechnical investigation report shall include all information in accordance with the latest version of TIA-222, Geotechnical Investigations (Normative). The report shall be generated and certified by a registered Professional Engineer, licensed to practice in the State of Texas and qualified in the area of subsurface investigation and engineering evaluation.
- C. The number of field borings to be performed at the site and their depths shall be appropriate for the antenna tower and loads described in this RFP, and in accordance with the latest version of TIA-222.
- D. Boring logs and report shall provide:
 - Date, sampling methods, number and type of samples
 - Description of the soil strata according to the Unified Soil Classification System
 - Depths at which strata changes occur referenced to a site benchmark elevation
 - Standard Penetration Test blow counts for each soil layer
 - Soil density for each soil layer
 - Internal angle of friction for each soil layer
 - Cohesion for each soil layer
 - Ultimate bearing capacities for each soil layer or at the recommended bearing depth(s)
 - For expansive soil conditions, the active zone of influence and recommendations for design
 - Elevation of free water encountered and the ground water depth below grade to be considered for design
 - Soil electrical resistivity, pH values and corrosive nature of soil
 - Other pertinent soil design data and recommendations
 - Recommendations for alternate foundation types
 - Topographic information for the site
 - Note the location within 1,000 feet (300 m) of the structure of underground pipelines, buried concentric neutral power wires, and electrical substations as these may affect electrolytic corrosion
- E. For drilled piers, the following information shall also be provided:
 - Ultimate tip bearing capacity
 - Ultimate skin friction for each soil layer
 - Lateral modulus of soil reaction for each soil layer
 - Ultimate soil strain at 50% of ultimate compression for each soil layer.
- F. Four (4) paper copies of the soils report and one soft copy in Adobe PDF format shall be provided to the County.

6.2.4 Tower Foundation Construction and Design

Bidders shall base their proposed pricing for the foundation design upon normal soil conditions. The final foundation designs shall be based upon existing soil conditions at the tower sites as determined by the geotechnical survey completed as part of this RFP.

6.2.4.1 Design Plans and Submittals

The required design documentation shall be approved, signed, dated, and sealed by a registered Professional Engineer (structural) qualified and licensed to practice in the State of Texas.

At no later than fifteen calendar days prior to foundation excavations for the tower, the Contractor shall deliver signed and sealed copies of all required tower structure and foundation design documentation. Four (4) paper copies and one soft copy in Adobe PDF format shall be provided to the County. The documentation shall be delivered to the County's Project Manager.

These submittals are in addition to any documentation submittals that may be required for the permitting process.

The Contractor shall prepare and submit for County approval, all plans, specifications, foundation drawings and scale drawings of the tower depicting its overall height, the number and height of sections, the width of each section and antenna loading and their specified heights.

The Contractor shall submit for County approval, a profile view of the tower containing structural details, tower loads, and engineering notes. Any documentation for the tower requested by the County for planning approvals shall be supplied in a timely manner.

In accordance with TIA-222, complete plans, assembly drawings, or other documentation shall be supplied showing the necessary marking and details for the proper assembly and installation of the components, including the member sizes, design yield strength of the structural members and the grade of structural bolts required. Foundation reactions, when provided, shall be based upon factored loads.

The tower plans shall detail attachment height, antenna quantity, antenna model or type, mount quantity, mount type and line size that was included in the structural analysis. Alternatively, the total effective projected area representative of all of the antennas and mounts at each elevation may be provided along with the associated line sizes.

Upon completion of tower construction, the Contractor shall deliver to the County, four (4) complete original copies of the tower and foundation as-built documentation, and a soft copy in Adobe PDF format, and in both DWF and DWG file formats.

6.2.4.2 Manufacturers' Certification and Support

All tower materials, hardware, and accessories shown on the plans and drawings shall be certified in writing by the tower manufacturer as being suitable for the purposes shown. The manufacturer's certification shall include the following statement: "The tower and foundation designs meet or exceed all requirements of Gonzales County Radio Communications System Improvements (GLO Contract No. 22-085-052-D305) and the latest version of TIA-222."

6.2.4.3 Construction Notifications

The County shall be notified when the inspection of the various construction phases of the tower and foundation are required.

For the foundation, the Contractor shall notify the County as to construction status at the following times:

- Ten days prior to start of excavation notify as to the start date of construction and estimated completion date of construction
- The day of the completion of the reinforcement steel
- The day of the concrete pour

For the tower structure, the Contractor shall notify the County as to construction status at the following times:

- Ten days prior to start of tower installation notify as to the start date of construction and estimated completion date of construction
- The day the tower reaches the greatest height
- The day tower installation is completed

6.2.4.4 Materials

All equipment and materials, except with the expressed written permission of the County, shall be new and unused, meet telecommunications industry standards, and, where applicable, be registered with and approved by the Federal Communications Commission and the Federal Aviation Administration.

The County reserves the right to reject and require the return, at the Contractor's expense, of any and all components that are defective or fail to comply with the specification. Such rejects and/or returns will neither invalidate the remainder of the contract. Rejections of materials for cause shall not provide an extension of time to the Contractor.

All materials shall conform to the provisions of TIA-222 where applicable, with respect to physical properties, manufacture, workmanship, and factory finishes.

6.2.4.5 Corrosion Protection

All fabricated tower assemblies and parts shall be hot-dipped galvanized after fabrication in accordance with the requirements of ASTM Standard A123. All hardware and other attachments, including antenna mounts, climbing steps, transmission line support systems, etc. shall be galvanized per ASTM Standard A153 and B695 or constructed of inherently corrosion resistant materials suitable for such applications. Other types of zinc coating or plating is not acceptable.

The Contractor shall furnish written certification that all installed tower components have been assembled and hot dipped galvanized in accordance with the minimum requirements outlined in the specifications herein.

6.2.4.6 Loads and Stresses

The design of the tower shall take into account dead and live loads induced by the structure itself and all appurtenances, and all stress applied to the tower and its appurtenances by wind forces.

The minimum safety factors listed in TIA-222 shall apply under the most severe combination of dead load plus live loading. The tower design shall allow no tower member to be stressed more than 90%.

6.2.4.7 Appurtenances

Appurtenances shall include, but not be limited to, the following:

- Tower-mounted equipment
- Antennas and antenna mounts
- Antenna platforms
- Microwave antennas and radomes
- Transmission lines and waveguides
- Climbing ladders and safety climb system
- Tower lighting systems
- Transmission line ladders
- Lightning rod

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6.2.4.8 Wind Speed and Loading

The tower structure and foundations shall be designed and constructed to support the specified loads in accordance with the latest versions of EIA/TIA-222G,

6.2.4.9 Transmission Line Support System

Cable ladders for transmission lines shall be installed to minimize tower face wind loading and shall not interfere with the climbing ladder or safety system. A cable support system shall be designed to accommodate all proposed transmission lines plus a 10% growth factor. Standard bolt-in hangers shall be used; snap-in hangers are not acceptable.

The cable support systems shall be of galvanized steel construction, and shall have mounting hardware of stainless steel or galvanized steel construction. No drilling of the tower legs or cross bracing shall be required to install the cable support device.

The ladder structures shall be spaced at maximum 3-foot intervals to enable hangers to be installed at 3-foot intervals.

Holes shall be provided in the tower support members, tower hanger adapter plates, or separate ladder structures to allow installation of bolt-in cable hangers. The 3/8-inch and 3/4-inch mounting holes shall be precision punched or drilled and sufficiently separated to accommodate. the bolt-in hangers.

6.2.4.10 Waveguide Bridge System

The Contractor shall design, furnish and install an efficient waveguide bridge system between the new/existing towers and the new equipment shelters to support all proposed transmission lines and to protect them from any debris that may fall from the tower or antennas.

A grating type of waveguide bridge is required. Microflect waveguide cushions, hangers, and crosses are the preferred method of attachment to the waveguide bridge. The waveguide bridge shall be designed to support devices to properly attach the transmission lines at the intervals specified.

The waveguide bridge facility shall be installed so that it is self-supporting with its own foundations and not rigidly attached to the tower or equipment shelters. Galvanized steel construction shall be used for the waveguide bridge and its ancillary components.

6.2.4.11 Climbing Ladder

The towers shall be provided with a climbing ladder, safety cable, hard hat and climbing belt. The climbing ladder shall be attached to tower legs in a manner that would not interfere with the installation or maintenance of antennas, or installation of additional transmission lines on the cable ladder. Similarly, the placement of cable ladder structures shall not interfere with the climbing facility. It shall be possible to lockout the climbing facility to preclude unauthorized use. The climbing facilities shall meet all OSHA requirements.

6.2.4.12 Lighting

The Contractor shall provide a dual lighting system with the towers or an alternate system if specified by the FAA. The lighting system shall consist of medium intensity white beacon for daytime lighting and red obstruction lighting for nighttime operation. The lighting system shall conform to all FAA, NEC, local, and FCC Regulations, and shall further conform to the latest version of the FAA publication AC 70/7460. The lighting system shall be a "No EMI or RF" interference, LED model.

Placement of the lighting systems on the towers shall be in a manner that allows unobstructed view by aircraft through 360°.

6.2.4.13 Controls

Activation of the lighting systems shall be via a light sensitive, photoelectric type switch and controller that will activate the lights at dusk (or other cloud-darkened condition) and extinguish the lights at sunrise. The controller shall automatically switch from red lights at sunrise to strobe lights and back to red lights when the sky darkens. The Controller shall be housed in a weatherproof enclosure to allow for outdoor mounting.

6.2.4.14 Wiring

Wiring for the tower lighting shall be provided and installed in conformance with the lighting manufacturer's specifications and in accordance with local electrical codes. All cable ties used on the tower shall be stainless steel or weather resistant black acetal. Standard white or black cable ties made of nylon or polypropylene shall not be used.

6.2.4.15 Tower Lighting System Failure Alarm

The lighting control system shall be equipped to provide a single, form "C" dry contact closure alarm indication of lighting failure.

The Contractor shall coordinate the configuration and connection points of the alarm inputs/outputs with the County Project manager.

- 6.3 New Site Development Requirements
- 6.3.1 General Requirements
- 6.3.2 Automatic Transfer Switch
 - A. An automatic load transfer switch shall be provided to transfer AC load between commercial power and the standby emergency power generator specified herein. The automatic transfer switch shall be sized for proper operation in accordance with the transferred loads.
 - B. The transfer switch shall be completely factory assembled and shall contain electronic controls designed for surge voltage isolation, with voltage sensors on all phases of both input power sources. Permanently attached manual control handles shall also be installed on the transfer switch. The switch shall provide positive mechanical and electrical interlocking and mechanically held contacts. Quick-make and quick-break contact mechanisms shall be provided for manual transfer under load.
 - C. The transfer switch shall be installed in a key locking, UL listed, NEMA cabinet to be mounted on an outside wall of the equipment shelter. The switch shall be fully wired and integrated with the engine generator set in accordance with local electrical and fire codes.
 - D. All transfer switches and accessories shall be U.L. listed and labeled, tested per U.L. Standard 1008 and CSA Approved.
 - E. Transfer Switch Specifications
 - Transfer switches shall be double-throw, electrically and mechanically interlocked and mechanically held in both positions.
 - Main switch contacts shall be high-pressure silver alloy. Each contact pole of the main transfer device shall be capable of handling both inductive and non-inductive loads and allow for inrush currents of 20 times the continuous rating. Contact assemblies shall have arc chutes for positive arc extinguishment. Arc chutes shall have insulating covers to prevent interphase flashover.

- Form C contacts shall be provided in each position for alarm reporting purposes. These contacts shall be connected to the alarm system for reporting transfer status.
- The transfer switch shall be rated for continuous operation in ambient temperature ranges of -40 to +50 degrees Celsius. Transfer switches shall be rated to carry 100% of the rated current in the enclosure.

6.3.2.1 Automatic Controls

Transfer switch control shall be designed for a high level of immunity to power line surges and transients. The device shall be tested in accordance with IEEE Standard 587-1980 (or latest revision). Controls shall have optically isolated logic inputs, and isolation transformers for AC inputs. Relays shall be installed on all outputs.

Under-voltage sensors shall simultaneously monitor all phases of the standby power source and the commercial power source. Pick up and drop out voltage settings shall be adjustable. Voltage sensors shall allow for adjustment to sense partial loss of voltage on any phase.

Time delayed automatic start up, and transfer to, the emergency power generator system for any of the following conditions:

- Commercial power failure
- Under-voltage condition for any and all phases
- Overvoltage condition for any and all phases
- Over/under frequency condition for any and all phases

Controls shall be provided with over-voltage sensors, adjustable from 100-130% of nominal input voltage to monitor the source. An adjustable time delay shall be provided.

Automatic controls shall signal the engine-generator to start upon signal from normal source sensors. A time delay start, variable from at least zero to 5 seconds, shall be provided to avoid nuisance start-ups. Battery voltage starting contacts shall be gold, dry type contacts, that have been factory-wired to a field wiring terminal block.

The switch shall transfer when the emergency source reaches the set point voltage and frequency. A time delay shall be provided for transfer, which is variable from zero to 120 seconds.

Protection shall be provided for low and high generator voltage and over/under generator frequency. Appropriate sensors shall be provided to ensure that load is not transferred, or that load is disconnected, when these parameters are out of (adjustable) limits.

The switch shall re-transfer the load to commercial power after a time delay. This time delay shall be variable (adjustable) from zero to 30 minutes to avoid short engine run times. The re- transfer time delay shall be immediately bypassed if the emergency generator fails.

The generator shall continue to run after re-transfer in an unloaded condition (engine cool-down) for an adjustable period of approximately five minutes after transfer to commercial power, and then automatically shut down.

Power for transfer operation shall be from the source to which the load is being transferred. Diagnostic indicators shall be provided to allow the last successful step in the sequence of control functions to be pinpointed. The present status of the control functions shall also be indicated.

These functions, at a minimum, shall include:

- Source 1 OK
- Start generator set
- Source 2 OK
- Transfer timing

- Transfer complete
- Retransfer timing
- Retransfer complete
- Timing for stop

Front Panel Control Devices

A key operated selector switch shall be provided which will provide the following functions:

- Test to simulate commercial power loss to allow testing of the generator set with or without transfer of the load.
- Normal leaves the switch in its normal operating position
- Retransfer a momentary position, which will provide an override of the retransfer time delay and cause immediate return to the commercial power source (if available).

Exerciser Clock

An exerciser timer shall be provided to periodically operate the generator without user presence or intervention to maintain the reliability of the unit. The timer shall be a user-programmable 168-hour (seven days) clock timer adjustable to day of week, time of day, and duration of exercise period. The timer shall incorporate a selector switch to choose whether the engine-generator exercises with load or without load.

6.3.3 Fencing Requirements

- A. The Contractor shall furnish and install an 8-ft high, commercial grade chain-link fence. The fence shall be constructed with a two- section, 16-ft wide gate for vehicular access near the base of the tower to facilitate the installation of new antenna systems.
- B. Line posts, rails and braces shall be galvanized steel and shall conform to the requirements of ASTM F1083 and ASTM F1043. The fence posts shall be spaced no more than 10-ft apart and shall be set in concrete which shall be of a commercial grade with a minimum 28-day compressive strength of 2500 psi and bonded to the site grounding system using an exothermic welding process.

6.3.4 Equipment Shelter Requirements

6.3.4.1 General Description

Prefabricated metal telecommunications equipment shelters, foundations, and ancillary equipment shall be furnished as specified herein to house all County owned equipment. The communication shelters shall be designed for the express purpose of housing electronic radio equipment and related components within a controlled environment necessary for the proper operating conditions of the equipment to be installed.

6.3.4.2 Reference Standards

Unless otherwise required herein, materials, design, and constructions procedures shall be in accordance with ANSI/NFPA-70, the National Electrical Code and all Federal, State, and local building codes.

6.3.4.3 Shelter Size

Equipment shelter dimensions shall be in accordance with the requirements of this RFP. The

interior height shall be a minimum of 9 feet from finished floor to finished ceiling.

6.3.4.4 Foundation

The shelter foundation shall be a concrete slab that is installed in compliance with local building codes and in accordance with shelter manufacture's requirements. The slab shall be elevated at least 1 foot above the finish grade of the site to ensure that water run off does not enter the shelter. The entrance to the equipment shelter shall be graded or concrete steps installed such that the distance from the grade or final step to the shelter floor does not exceed 8 inches.

6.3.4.5 Flooring

The floor section shall be constructed of steel reinforced concrete and be rated to support all communications equipment, battery plants, etc. Wood floors are not acceptable. All surfaces shall be smooth. Floors shall be bolted to adjoining walls and all structures shall be shipped with floor systems fully assembled to walls. The interior floor surface shall be commercial grade 1/8-inch x 12-inch x 12-inch vinyl floor tile over concrete. Base molding shall be installed around all perimeter walls.

6.3.4.6 Doors

Exterior doors shall be in a cast-in galvanized steel frame, and be a minimum size of 3-ft, 6-in x 7-ft, 0-in. The door frames shall be 16 gauge galvanized steel, primed painted, cast into the wall panel, and installed flush with the exterior wall.

The doors and frames shall be painted to match the exterior trim. Hinges shall be steel ball bearing type and tamper resistant to prevent removal of the pins from outside the shelter. The doors shall be insulated, primed, and painted, and include a door closer, doorstop, pull handle, and magnetic weather stripping. Doors shall be installed with a threshold and a door sweep. The lockset shall be a best cylinder entrance lock with lever handle and strike plate and protected on the exterior by anti-prying plate. All locks and keys shall be approved by the County. A drip awning shall be installed over each door to prevent water dripping into the shelter.

6.3.4.7 Lighting

There shall be sufficient interior lighting to provide a level of 150 foot-candles at 4-ft above the floor in the equipment room. Fluorescent fixtures using two standard 4-ft tubes per fixture shall provide interior light. The switch for the light fixtures shall be located inside and on the latch side of the entry door. Light fixtures shall be installed to the front and rear of electronic equipment racks to provide sufficient lighting for service personnel to perform equipment maintenance. The Bidder shall furnish and install one LED vandal resistant floodlight with photocell mounted on the outside near each entrance door and an interior light switch shall be furnished and installed to control the lights.

6.3.4.8 HVAC

For all equipment shelters, the Bidder shall provide one wall-mounted vertical wall air conditioner unit and a controller, sized to meet the BTU load requirements of the proposed system equipment plus 50% growth (2-ton minimum), for the equipment room.

The controller shall provide for unattended heating and cooling of the communications equipment shelter's equipment room without personnel intervention. The controller shall have a time delay to prevent the HVAC system from sustaining compressor damage if energized prematurely following a power failure.

The HVAC unit shall be capable of safely operating when the outside temperature falls below 60° F, allowing continuous interior equipment cooling and dehumidification in cold weather. The HVAC unit shall be furnished with reheat mode and a heat strip to meet the Bidder's requirements.

6.3.4.9 Exhaust Fan

The Bidder shall provide an exhaust system for the equipment room consisting of an exhaust fan with back draft louver, motorized air intake louver, remote thermostat, screened exhaust weather hood and filtered air intake weather hood. The exhaust system shall be sized to the shelter volume, but in no case shall the exhaust fan be less than 12-in in diameter.

6.3.4.10 Fire Detection and Suppression

The communications equipment room smoke and fire detection shall include a combination of ionization/photoelectric smoke detectors in conformance with UL 268 standards and shall be installed in a cross-zoned detector configuration.

The communications equipment room shall include a high and low temperature alarm. Separate wall-mounted portable fire extinguishers; one five-pound all-purpose dry chemical Class ABC, and one seven-pound minimum Class BC CO2 extinguisher, shall be located adjacent to the door of the equipment room.

6.3.4.11 Shelter Electrical

The main power shall feed a primary disconnect switch to allow for the manual disconnection of commercial power. The main power shall then be routed to an automatic transfer switch that will switch to emergency generator power in the event commercial power is lost. The load side of the automatic transfer switch shall then feed a manual transfer switch that is connected to an external generator receptacle. The load side of the manual transfer switch shall feed the shelter load center.

All power feeders and branch circuits shall contain an equipment grounding conductor which shall have green colored THWN/THHN insulation or green identifying tape at both ends and which shall be suitably terminated to an equipment ground bus or device screw terminal at both ends.

6.3.4.12 Shelter Service Size

The Contractor shall provide at minimum a 100-amp, single phase, 120/240V, 32-circuit load center. The load center shall not be rated for less than 100 amp service. The load center shall contain separate, appropriately sized circuit breakers for the HVAC units, DC rectifiers, Surge Protection Device, and as necessary, each major communications equipment component.

6.3.4.13 Shelter Electrical Wiring

All electrical conduits shall be installed in a neat and orderly fashion to provide an aesthetically appealing layout. Symmetry shall be employed throughout. The following is a list of the minimum required outlets:

• A four-plex grounded receptacle group shall be installed on the ceiling at typical 20.5-in intervals corresponding to equipment rack locations. Each of the four-plex groups shall be protected by a separate 20-amp circuit.

• Four (4) 20 amp, 240 VAC circuit drops (6-ft pigtail coil) shall be installed on the ceiling above the cable tray at a location corresponding to the location of the DC power system.

• Four-plex receptacles shall be installed every 4-ft on each wall of the equipment shelters at a level of 4-ft above the floor. The wall receptacle loads shall be protected by a sufficient quantity of 20 amp circuit breakers to meet the requirements of NEC and local electrical codes.

• One (1) 20 amp, exterior GFCI type duplex receptacle shall be provided near the HVAC unit.

6.3.4.14 Isolation Transformers

In the event that the electrical service meter or sub-feed panel shall be located more than 50-ft from the communications equipment shelter's main disconnect, then an isolation transformer will be required. The isolation transformer shall be a Square D EE25S3H or equivalent, properly sized to support the equipment shelter electrical service, and shall be located outside the communications shelter as close to the shelters main disconnect as possible.

6.3.5 Generator Requirements

6.3.5.1 General

Plans and specifications for standby power generators shall be furnished by the Awarded Bidder at all sites to be constructed pursuant to this RFP. Generators shall be mounted on a concrete foundation in accordance with the manufacturers' specifications for weather proofing, shock and vibration mounting, ventilation, cooling, fuel supply, and electrical connections. It shall be the responsibility of the Contractor to provide plans and specifications to install and test a complete and operational standby power generator and automatic transfer switch to be supplied pursuant to this RFP.

6.3.5.2 Installation

The Contractor shall provide and install all the electrical wiring necessary to connect the standby emergency power generator, automatic transfer panel, dry contact closure type alarm monitoring points, and equipment shelter electrical loads.

All wiring shall meet or exceed manufacturer specifications for designated load requirements of the equipment to be supported. All wiring shall be run in conduit and meet applicable NEC and local codes. All electrical materials and work shall be inspected and approved by the building inspector with jurisdiction at the site of installation.

6.3.5.3 Documentation

The following documentation shall be supplied to the County for each generator set and transfer switch supplied:

- Specification and data sheets for the exact type and model generator and transfer switch
- supplied pursuant to this procurement, including all options and accessories
- Manufacturer's certification of prototype testing
- Manufacturer's warranty documents
- Shop drawings showing plan and elevation views of the equipment
- Interconnection wiring diagrams showing all external connections required; with field
- wiring terminals marked in a consistent point-to-point manner
- Manufacturer's installation instructions
- Operator and maintenance manuals that outline routine maintenance and troubleshooting
- procedures
- Transfer switches manual and wiring diagram

The above documentation shall be included in each copy of the as-built documentation delivered to the County's Project Manager

6.3.5.4 Warranty

A no deductible warranty that provides for onsite service by a factory authorized service contractor shall be provided.

6.3.5.5 Startup Service
A factory authorized service representative shall provide initial startup service and shall conduct acceptance testing at each site at which the equipment is installed. Test records shall be furnished to County in both printed and electronic format.

6.3.5.6 Type of Generator

A. The generator set equipment, including the engine, alternator, exciter and voltage regulator shall be designed and manufactured by a single source manufacturer who has been regularly engaged in the production of engine-generator sets for a minimum of ten years. Preferred manufactures are Kohler, Cummins and Caterpillar.

B. This manufacturer shall have a local representative who can provide factory-trained servicemen, required stock of replacement parts, and technical assistance.

C. The engine shall operate at 1800 RPM and be equipped with shutdown devices for overspeed, high coolant temperature, and low oil pressure.

D. The generator shall be configured for outdoor installation and shall be furnished complete with all accessories and equipment needed for the proper operation of the unit. These shall include, but not be limited to, cabinet housing, starting batteries, battery racks, battery chargers, battery cables, cooling systems, residential grade exhaust silencers with exhaust pipes and rain caps, automatic load transfer controls, electrical surge protection, automatic frequency regulators, vibration isolators, fuel lines, fuel regulators, fuel filter/water separators, fuel storage tanks, conduits, junction boxes, wiring, instrument panels, remote alarm panels mounted inside equipment shelters, mounting bases, and fuel leakage detectors. The generator shall be provided with an engine oil heater.

6.3.5.7 Generator Ratings

Output power rating of the generator shall be capable of delivering electrical power output to support the electrical equipment and shelter loads. No generators shall be rated for less than 25kW Standby output power.

6.3.5.8 Alternator

The alternator shall be capable of providing the specified power capacity at no less than a 0.8 power factor. The output shall be 60 Hz and commensurate with site requirements.

The alternator shall be directly connected to the engine flywheel housing and driven through a flexible coupling to ensure permanent alignment; gear driven alternators are not acceptable.

The alternator shall be a 105°C rise model, single-bearing, self-aligning, four-pole, synchronous type and direct drive centrifugal blower for proper cooling and minimum noise, with a temperature compensated voltage regulator and a brushless rotating rectifier exciter system. No brushes will be allowed.

The voltage regulator shall provide no load to full load regulation of rated voltage within ± 2% during steady-state conditions.

Frequency regulation shall be by an electronic isochronous governor ($\pm 0.5\%$) from steady-state no load to steady-state rated load.

6.3.5.9 Generator Instrumentation, Control and Alarms

- A. At a minimum, the generator set shall include the following instrumentation:
 - Voltmeter
 - Frequency Meter

- Running Time Meter
- Fuel Gauge
- Ammeter with Phase Selector Switch
- Oil Pressure Gauge
- Coolant Temperature Gauge
- B. A control box local to the generator set shall be provided containing the start, run, and stop switches for manual operation, and remote control terminals for connection to the automatic load transfer control panel. AC line circuit breakers, commensurate to the electrical interface required at each site, shall be provided.

The generators shall shut down and lock out upon:

- Failure to start (overcrank)
- Over speed
- Low lubricating oil pressure
- High engine temperature
- C. Alarm contacts shall be provided to allow transmission of status on fault alarms for any of the above conditions, plus:
 - Control switch not in auto position
 - Generator set is running, and when the generator is on-line under load conditions
 - Low oil pressure pre-warning
 - High coolant temperature pre-warning
 - Low engine temperature
 - Low battery voltage
 - High battery voltage
 - Low coolant
 - Low fuel, when the tank is less than ¹/₄ full
- D. These alarm contacts shall be wired into and shall be reported by the alarm system being supplied pursuant to this procurement. Form C alarm contacts shall be provided and connected to the alarm system to report loss of AC power, low battery voltage, high battery voltage, and power on. Meters shall be provided on the generator to indicate output voltage, output current, running time, frequency/RPM.

6.3.5.10 Fuel Supply

The generator set shall utilize diesel or liquid propone (LP) as a fuel source. The Contractor shall provide an above ground fuel tank and all fuel system piping and regulation equipment sized as required for proper fuel flow to the engine. Proposed fuel systems shall meet all applicable codes, standards, and requirements for such systems.

The tank shall be sized to provide a minimum of 120 hours of continuous operation at 50% rated generator output and shall not be less than 130-gallon water capacity.

The tank shall be installed and anchored in a manner that will prevent it from moving in a flood or storm surge condition. Tank installation and all connections and plumbing to connect the fuel system to the engine shall comply with applicable codes and regulations, and shall comply with NFPA-37 standards. The fuel tank shall be easily accessible for refueling.

A fuel level sensing device shall provide a dry contact closure-type alarm monitoring point for the fuel tanks to issue an alarm when the tank is less than 1/4 full.

The Contractor shall fill the fuel tank prior to and after conducting the acceptance tests.

6.3.5.11 Weatherproof Enclosure

The generator shall be provided with the manufactures recommended outdoor weatherproof enclosure.

6.3.5.12 Exhaust System

An exhaust system with a "critical silencer" residential type muffler shall be provided and sized as recommended by the manufacturer. The Contractor shall mount the muffler so that its weight is not supported by the engine.

A flexible exhaust connection shall be provided as required for connection between the engine's exhaust manifold and the exhaust line, in compliance with applicable codes and regulations.

The Contractor shall mount and install all exhaust components as recommended by the manufacturer and as required to comply with all applicable codes and regulations. All components shall be properly sized to ensure proper operation without excessive backpressure when installed. The installation shall allow for pipe expansion and contraction.

6.3.5.13 Battery and Charger

A lead acid starting battery rated for the engine type to be supplied shall be furnished and installed with the generator set. This battery shall be float charged by an appropriate sized voltage regulated charger, which is powered by 120 VAC. Float, taper, and equalize charge settings shall be provided.

6.3.5.14 Cooling System

A radiator-cooled engine is required. The radiator shall be filled with a water and coolant mixture in accordance with the engine manufacturer's recommendations. A thermostatically controlled water jacket coolant heater shall be provided and installed in accordance with the manufacturer's recommendations.

6.3.6 Backup Power Systems

6.3.6.1 Backup Power Systems – General

Provide and install backup power systems for the microwave radios and associated equipment as described below in this section. Backup power systems may be:

- DC power systems with battery backup; or
- UPS systems

For either alternative, the backup power system must provide backup power for the full load presented by the radio site, including all land mobile radio system components, all backhaul system components, all site monitoring and site security components and any other components necessary for the normal operation of the radio system at each site. Backup power systems must provide a minimum of X hours of backup time at each site.

6.3.6.2 -48 VDC Battery Systems

DC power systems are defined to include, but are not limited to the following components (common to each -48 VDC power system):

- 1. Meter & alarm panel/controller
- 2. Shunt switch panel
- 3. Fuse panels
- 4. Power return bar
- 5. Wiring and hardware

- 6. Battery termination bus assembly
- 7. Batteries and battery racks (dual redundant strings)
- 8. Rectifiers/chargers

The new -48 VDC systems at all locations shall provide distribution fusing, metering, and power plant alarm functions, equalize timer functions, and cable termination for input and distribution loads. The systems specified herein shall have charging capacity to cover the full design and future load for each location. Battery banks shall consist of two strings, with each string capable of supporting the full design load.

6.3.6.3 Sites with Existing 48 VDC Systems (No New System Required)

If the bidder's proposed system includes existing radio base station facilities at sites where there is an existing 48 VDC rectifier, battery plant and DC distribution systems that provide sufficient capacity to support the radio system and backhaul system equipment at the site, new DC power systems will not be replaced as part of the work described in this specification. At these sites connect new microwave radios and associated equipment to the existing DC distribution systems.

6.3.6.4 -48 VDC Dual String Backup Power System Electrical Requirements

The high-level electrical requirements for these backup power systems are shown below.

Load Equipment Input Voltage (48 VDC Systems):

The DC power input range of all equipment requiring power in this system shall be – 42.5 to – 56.7 Volts DC (per ANSI T1-315). The normal operating range of the load equipment is -42 to -56.0 Volts DC.

Output Voltage (48 VDC Systems):

The output voltage of the DC Power Plant shall be -54.0 Volts DC with a range of -42.5 to -56.7 Volts DC (per ANSI T1-315).

-48 Volts System Voltage

Float Voltage: -54.0 Volts (2.25 volts per cell)

Equalize Voltage: -55.2 Volts (2.30 volts per cell)

Output Current (48 VDC Systems):

The -48 VDC systems shall support the load presented by all radio system backhaul system and associated equipment at float voltage with a single battery string. Since most loads are constant power, the system shall support a load of no less than 130% of the nominal load at 42 V DC. In addition, the system shall have chargers capable of supporting recharge current plus the load at 42 V DC.

The -48 VDC system design shall be based on a minimum run time of X hours (unless otherwise specified for specific sites having longer maintenance and repair access times) and a maximum recharge time of 24 hours.

6.3.6.5 -48 VDC Rectifier Systems for Dual String Battery Backup Power Systems

At each County microwave site provide and install a new -48 VDC rectifier system (LaMarche LmPower LMP-400 or approved equivalent) to support the microwave radio equipment rack and other 48 VDC equipment at that site supplied by the Contractor. Provide each rectifier chassis with a sufficient number of 48 VDC rectifier modules, each rated for 3000 Watts, to provide N+1 redundant charger configuration at the design load. At each location two strings of -48 VDC batteries shall be installed, as described herein.

Functional System Requirements

The rectifier system shall meet the following requirements:

- 1. Universal AC Input
- 2. Hot-Swappable Rectifiers
- 3. Rectifier Efficiency > 96%
- 4. Rectifier Hibernation Management Mode for Increased System Efficiency
- 5. Intelligent Battery Management and Protection Modes
- 6. Site Environment Monitoring and Remote Management (Through Dry Contacts, Serial Interface or Ethernet Interface)
- 7. 16 Pluggable Load Breakers, 2 Battery Breakers and LVBD (Low Voltage Battery Disconnect)
- 8. UL Recognized

The detailed specifications for the rectifier system are shown in the next Section.

AC Input Specifications	
Input Mode	176-300 VAC (Single Phase) 208/220/240 VAC or 380 VAC (3 Phase)
Maximum Input Current: Input Frequency	144 A (Single Phase) 54 A/Phase (3 Phase) 45-66 Hz
Rectifier Specifications	
Input Voltage: Input Frequency: Output Voltage: Efficiency: Rated Power	85-300 VAC, Single Phase 45-66 Hz 42-58 VDC, Nominal: 53.5 VDC >96% 3000 Watts (176-300 VAC) Linearly derated (85- 175 VAC) 1000 W (85 VAC) 1500 W (105 VAC) 1800 Watts (120 VAC) 2600 W (175 VAC)
Dimensions: (W x D x H)	17.32" x 14 " x 10.5" (6RU) (440 x 354 x 266.6 mm)
Weight: Cooling Mode: Efficiency Power Factor: THD:	63.93 lb. (29 kg) Forced Air Cooling >96% Peak ≥0.99 ≤5%
DC Distribution Specifications	
Rated Output: Battery Breakers: Load Breakers:	24000 Watts Battery Connection Terminals 20 X Plug-in Breaker Positions (Up t0 100 A per position)
Low Voltage Disconnect:	LLVD (w 10x critical and 10x non- critical loads
Surge Protection Device (SPD):	10kA/20kA, 8/20µs

Controller Specifications	
Display Mode:	LCD
Available Signal Input:	1 Battery Temperature Sensor, 1 Ambient Temperature Sensor, 1 Smoke, 1 Gate, 2 Common DI
Alarm Output:	4 Dry Contact Outputs
Communication Ports:	RS232/485, Ethernet
Mechanical Specifications	
Overall Dimensions (W x D x H):	17.32" x 14.0" x 8.75" (5RU)
	440 x 354 x 222.2 mm
Weight (without rectifiers):	≤29.54 lb. (13.4 kg)
Safety:	IEC 60950 Standards, EN 61000-4-5
	19" (Available in 23" Mounting)
Terminal:	Real Access
Environmental Specifications	
Operating Temperature:	-40 to 65°C (-40 to 149°F)
Storage Temperature:	-40 to 70°C (-40 to 158°F)
Operating Humidity:	5%-95% (Non-Condensing)
Altitude:	0 to 6,562 ft. (0-2000 m)
Alarm Specifications	
Internal Fault	
AC Phase Failure	
AC/DC Over-voltage/Under-voltage	9
Load/Battery Fuse Break	
Battery Discharging	
Low Voltage Battery Disconnect (L'	VBD)
Battery Temperature High/Very Hig	Jh/Low/Very

No Redundant Rectifiers AC/DC Surge Protection Device (SPD) Failure 6.3.6.6 Alarm Settings (-48 VDC Systems) The following voltage levels shall provide an alarm as stated below

1. Low Voltage: -48.0

Rectifier Communication Failure

Low

Rectifier Failure

- 2. High Voltage: -55.9
- 3. Charger High Voltage Shutdown: -56.4

The low voltage alarm at 2.0 Volts per cell allows the alarm system to indicate loss of all charging and allows for sufficient time for technician response before the power plant fails.

The high voltage alarm at 2.33 Volts per cell allows the high voltage alarm to activate prior to automatic shutdown of the charger(s).

The charger high voltage shutdown at 2.35 volts per cell allows the high voltage alarm to activate prior to the shutdown of a charger.

6.3.6.7 -48 VDC Battery Strings for Dual String Battery Backup Power Systems

At each Gonzales County site equipment shelter provide and install two -48 VDC battery strings. Connect each battery string to a separate 200 AMP battery breaker at the rectifier system battery bus.

Battery strings shall be made up of Absorbent Glass Material (AGM) Valve Regulated Lead Acid (VRLA) battery cells. Batteries must be manufactured directly in a facility owned by the manufacturer and located in North America. Battery manufacturer shall have at least 20 years of experience in the manufacture of VRLA batteries.

-48 VDC Battery Plant Specifications for Rack-Mounted Backup Power Systems

Design Load Current at Float Voltage (Amps):	Sufficient to provide for all radio system, backhaul system and associated equipment at each radio base station site.
Required Current per String:	Sufficient to provide for all radio system, backhaul system and associated equipment at each radio base station site. (Based on Age Corrected ADC)
Number of -48 VDC Strings:	2
Amp-Hour Rating (2 strings @ 8 hour rate):	Sufficient to provide the full design load in AH to an End of Discharge voltage of 1.75 V/cell at 77°F.
Cell Model Number:	C&D AT-XX or Deka (East Penn) AVR95-X (or approved equivalent) (Where XX or X is the model number for the cell that provides for the AH requirements listed above.
Battery Stack Configuration:	Battery stacks shall be configured to fit in available physical space at each site.
Battery Stack Dimensions:	Battery stacks shall be configured to fit in available physical space at each site.

6.3.6.8 Battery Disconnect Pull-Out Disconnects

For each -48 VDC battery plant, provide 3-pole pull-out disconnects (Boltswitch PAT325 or approved equivalent) equipped with 300 Amp fuses at the battery racks for each battery string (fuses are provided primarily to provide DC continuity through the disconnect, and are sized with higher capacity than the main battery breakers in the rectifier distribution frame; however, they are also meant to provide protection against a direct battery to ground or battery short in the cabling system.). The third pole on each disconnect shall be used for provision of a remote alarm indication of battery string disconnection.

6.3.6.9 -48 VDC Battery Backup System Battery Cables and Interconnections

Provide interconnections between the rectifier system and the battery strings using Southwire Telcoflex L4 telcom power cable (or approved equivalent). The specifications for this cable are shown below.

General Specifications

The specifications for the Telcoflex L4 cable shown above are as follows:

- ASTM B-33 and B-172 Class I tinned copper
- UL 44 Type RHH, FT4-ST1, VW-1, 600 Volts DC or AC
- KS-24194™ List 4
- UL 2731 Telecommunications Central Office Power Cable
- ATIS-0600017.2014 Non-Halogenated DC Power Wire and Cable for Telecommunications Power System
- Telecordia GR-347-CORE
- CSA 87W MIB 105°C 600V. FT4-ST1
- Lead-Free, Silicone-Free, RoHS Complaint
- IEC Including 60674 and 60332
- Reach-European Community Regulation

Physical and Electrical Specifications

SIZE	STRANDING	NOMINAL CONDUCTOR	INSUL. MIN. AVG. WALL	N. NOMINAL MAX D.C RES @ .L INSUL. DIAM. 20°C		AMPACITY PER NEC TABLE 310.15(B)(16)	
		DIAMETER (INCHES)	(MILS)	(INCHES)	(OHMS/MFT)	75°C	90°C
8	41	0.153	60	0.277	0.679	50	55
6	65	0.186	60	0.312	0.436	65	75
4	126	0.26	60	0.383	0.274	85	95
2	168	0.305	60	0.438	0.172	115	130
1/0	266	0.392	80	0.555	0.109	150	170
2/0	342	0.455	80	0.618	0.0868	175	195
4/0	532	0.577	80	0.745	0.0546	230	260
350	888	0.76	95	0.953	0.0334	310	350
500	1221	0.89	95	1.09	0.0234	380	430
750	1850	1.094	110	1.32	0.0157	475	535

Conductors:

Class I modified bunched (8 AND 6AWG) or rope-bunched (4AWG and larger) stranded tin-coated copper conforming to ASTM B-33 and Underwriters' Laboratories requirements. A mylar tape shall be applied over the conductor to facilitate stripping.

Insulation:

105°C rated low smoke, non-halogen TelcoHyde® conforming to Underwriters' Laboratories Standard 44, Standard 758 and CSA C22.2 No. 210-11. In addition, TelcoHyde® complies with the requirements of Telcordia Specification GR-347-CORE. The insulation has a Limiting Oxygen Index of 35%.

Separators:

On sizes 6 AWG and larger, a mylar tape shall be applied over the insulation.

Covering and Finish:

On all sizes, a natural cotton braid conforming to UL Standard 44 requirements is applied overall. A section of completed cable has a Limiting Oxygen Index of 35%. A moisture resistant, flame retardant saturant and a colored finisher are applied to the braid.

Battery String to Rectifier Connections

For -48 VDC systems the interconnections between the battery strings and the battery feed point at the rectifier/charger system shall be made using stranded Extra Flexible power wire with a cotton outer braid and with a minimum wire size of 350 kcmil (Southwire Telcoflex L4 or approved equivalent). For longer cable runs, increase the wire size to provide a minimum loop voltage drop of 0.5 Volts at the rated load current. Terminate cables with suitable long-barrel lug-type two-hole irreversible compression terminations (Burndy YA series or approved equivalent).

Battery String to Pull-Out Disconnect Interconnections

Connections between pull-out breakers at battery banks and battery strings shall be made using short sections of stranded Extra Flexible power wire with a cotton outer braid and with a minimum wire size of 1/0 AWG (Southwire Telcoflex L4 or approved equivalent), terminated with suitable irreversible compression long barrel two-hole lugs (Burndy YA series or approved equivalent).

Battery String Cable to Rectifier Battery Bus Interconnections

Connections between -48 VDC battery bank cables and the -48 VDC rectifier battery feed bus shall be made using short sections of stranded Extra Flexible power wire with a cotton outer braid and with a minimum wire size of 1/0 AWG (Southwire Telcoflex L4 or approved equivalent). Use irreversible compression in-line reducing splices with flame retardant heat shrink covers (Burndy HYREDUCER series or approved equivalent) to make transition between wire sizes.

Bus Bar Conductors

Bus bars used in the -48 VDC backup power system shall have the following characteristics.

Bus Bar Conductor Current Carrying Capacity

Copper bus conductors shall be sized such that the current density does not exceed 1000 Amperes per square inch of cross-sectional area.

Copper Bus Bar Specifications

All copper bus bar used in this power plant shall conform to the following specifications.

- 1. Copper type: UNS-C11000 (ETP-110) 101% IACS, per ASTM B-187.
- 2. Conductivity: 0.15328-Ohm grams/square meters.
- 3. The resistivity is 10.371-Ohm circular mil/foot at 20°C.

Backup Power System Hardware Electrical and Mechanical Requirements

A. Criteria for screws and bolts used in electrical connections and clamping mechanical loads are shown in the following table.

RECOMMENDED RATING	TORQUE	CLAMPING LOAD	ELECTRICAL CURRENT RATING
Screw or Bolt Size	FtLbs.	Lbs.	Amperes
8-32	1.25	455	50
10-24	1.75	555	70
1/4-20	4.25	1000	135
5/16-18	8.33	1600	245
3/8-16	15	2400	425
7/16-14	23.33	3200	660
1/2-13	41.67	5000	1000
5/8-11	71	6815	1240
3/4-10	125	10000	1500

B. Provide hex cap or Phillips head machine screws to allow the use of cordless power screwdrivers. Machine screws and hex cap screws shall be SAE Grade 2 steel or equivalent, while socket cap screws shall have 100,000-psi minimum tensile strength and shall be furnished with a steel flat washer under the head. Ferrous screws and washers shall have a corrosion protective finish.

6.3.6.10 -48 VDC Breaker Panels

At each of the Gonzales County site equipment shelters provide and install 48 VDC breaker panels (Unipower Telecom DPB2U-AB or approved equivalent) in the microwave radio racks. Connect "A' and "B" sides of breaker panel to separate rectifier distribution bus breakers and "A" and "B" power input connectors on microwave radios and associated equipment. Connect 48 VDC input terminals on equipment to the beaker panel "A" and "B" outputs using 12 AWG stranded copper wire, color coded for -48 VDC (red) and Return/Ground (black) leads. Color coding may be provided using colored tape or other color marking at the end of each wire run. At any point that the wire crosses a metal surface or edge, it must be provided with additional insulation with a minimum thickness of 20 mils.

Specifications for these breaker panels are shown below.

Breaker Panel Features

- 1. Two Rack Units High: 3.50"
- 2. Field Changeable Breakers
- 3. Field Replaceable Alarm Board
- 4. 19- or 23-Inch Rack Mounting
- 5. Magnetic Circuit Breakers
- 6. Dual, Independent A/B Buses
- 7. Optional A/B Return Bus Bars
- 8. Fully Independent A/B Alarms
- 9. 1 to 9 Breakers per Bus
- 10. 1A to 100A per Breaker
- 11. 300A per Bus, 600A Total
- 12. Voltage: 12, 24 or 48VDC
- 13. Positive or Negative Ground
- 14. LED and Form C Relay Alarm Option
- 15. -20° to +70°C Operating Temperature

Breaker Panel Specifications

A. INPUT/OUTPUT

Panel Capacity: Configuration:	300A Per Bus, 600A Total Dual A/B Bus, 1 to 9 Breakers Each (Circuit breakers shall be installed in positions 1 to 9 in descending order of current capacity. Unused positions have a blank panel installed.)
Breaker Capacity:	1A to 100A
Voltage:	48V Version – 42-60VDC
Polarity:	Positive or Negative Ground
Physical Specifications	
Case Material:	Steel
Dimensions, Inches (mm)	: DPB2U-AB-19 – 3.50 H x 19.00 W x 10.19 D
	DPB2U-AB-23 – 3.50 H x 23.00 W x 10.19 D
	(88.9 x 584 x 259)
Weight:	9.55 lbs. (4.33kg.)
Rack Mounting Width:	19 or 23 Inches
Circuit Breaker A & B Alarn	n Options
LED Alarm Indicators:	Dual-Color LEDs
LED Status Indication:	Green = Normal
	Red = Alarm
Alarm Connections:	A/B Form C Relay Contacts
O - mar - eti-mar	
Connections	
Input Connections:	Bus Bars with Holes for 3/8" Bolts
Fail Alarm Connections:	Screw Terminals
Environmental	
Operating Temp Range	-20°C to +70°C
Storage Temp. Range:	-40°C to + 85°C
Humidity:	0% to 95%, Non-Condensing
Safety Standards	
• UL60950	
 CSA22.2 No.60950 ENGODED)
• EN60950	
6.3.6.11 Battery Co	ntainment Spill Trays

Provide and install spill trays designed for use with VRLA batteries (Enviroguard HWK-WW-LLL [where WW indicates the width in inches and LLL indicates the length in inches], or approved equivalent) under each battery rack at all County microwave site communications shelters.

Spill Tray Features

- 1. Corrosive-resistant liner with Class 1 fire rating (NFPA 101)
- 2. Optional floor anchors for installation on computer floors
- 3. Quick-slip barrier walls to allow for battery access
- 4. UL Listed
- 5. FM Approved pillows available

Regulatory Compliance

- NFPA
- International Fire Code (IFC)
- OSHA
- Underwriters Laboratories (UL)

Specifications

- 4" x ¹⁄₂" Polypropylene Barriers
- 60 mil with 80 mil optional Polymeric Liner
- System includes 12"x12" Neutralization and Absorption Pads (VRLAPADs)
- KOH pads available for NiCad Battery Applications

6.3.6.12 48 VDC Power Systems Installed in New Microwave Racks – Electrical Requirements

At any locations where only microwave radio backhaul systems are being installed (e.g. Dispatch centers) install -48 VDC backup power systems in the new microwave radio racks provided as part of the new microwave radio equipment described elsewhere in this specification.

The high-level electrical requirements for these backup power systems are shown below.

Load Equipment Input Voltage (48 VDC Systems):

The DC power input range of all equipment requiring power in this system shall be – 42.5 to – 56.7 Volts DC (per ANSI T1-315). The normal operating range of the load equipment is -42 to -56.0 Volts DC.

Output Voltage (48 VDC Systems):

The output voltage of the DC Power Plant shall be -54.0 Volts DC with a range of -42.5 to -56.7 Volts DC (per ANSI T1-315).

-48 Volts System Voltage

Float Voltage: -54.0 Volts (2.25 volts per cell)

Equalize Voltage: -55.2 Volts (2.30 volts per cell)

Output Current (48 VDC Systems):

The -48 VDC systems shall support a load of no less than 24 Amps at float voltage. Since most loads are constant power, the system shall support a load of no less than 30.9 Amps at 42 V DC. In addition, the system shall have chargers capable of supporting recharge current plus the load at 42 V DC.

The -48 VDC system design shall be based on a minimum run time of 8 hours and a maximum recharge time of 24 hours.

6.3.6.13 -48 VDC Rectifier Systems for Rack-Mounted Backup Power Systems

At each of the Gonzales County microwave sites at which rack-mounted backup power supplies will be used, provide and install a new -48 VDC rectifier system (LaMarche LMP-100A or approved equivalent) to support the microwave radio equipment rack and other 48 VDC equipment at that site supplied by the Contractor. Provide each rectifier chassis with two (2) 48 VDC rectifier modules each rated for 50 Amps output current to provide N+1 redundant charger configuration.

At each location two strings of -48 VDC batteries (12 x 12 VDC batteries) shall be installed and connected to the rectifier system, as described herein.

Functional System Requirements

The rectifier system shall meet the following requirements:

- 1. Universal AC Input (176-300 VAC)
- 2. Compact Design (1RU in height)
- 3. Hot-Swappable Rectifiers
- 4. Rectifier Efficiency > 96% Peak
- 5. Intelligent Battery Management and Protection Modes
- 6. UL Recognized

The detailed specifications for the rectifier system are shown in the next Section.

Rectifier System Specifications

Input Voltage:	176-300 VAC, Single Phase
Input Frequency:	45-66 Hz, rated value: 50 Hz/60 Hz
Maximum Input Current:	40 A
SPD	20kA/40ka, 8/20 μs
Output Voltage:	-42~ -58 VDC, Nominal: 54 VDC
Dimensions:	440 (W) x 354 (D) x 44 mm (H) (1RU)
Weight:	≤6.5 kg (w/o rectifiers); ≤9.7 kg (w/ rectifiers)
Cabling Mode:	Front Inlet and Front Outlet;
Cooling Mode	Forced Cooling
Installation Mode	19" Rack or Cabinet
Protection Level	IP20
RECTIFIER MODULE Input Voltage Efficiency Rated Power Working Temperature Cooling Mode Dimensions Weight Power Factor THD	>96% Peak 3000 W (176-300 VAC) 50A @ 53.3V (220 VAC) Linearly derated -40°C~85°C (full load @ 55°C) Forced Cooling 106 mm (W) x 298 mm (D) X 42,5 mm (H) ≤1.6 kg ≥0.99 ≤5%

DC Distribution Specifications	
Maximum Capacity:	6000 Watts
Battery Fuse:	1 x up 40 A
Load Fuses:	1 x 80 A; 1X 40 A
Surge Protection Device (SPD): Controller Specifications	10kA/20kA, 8/20µs
Display Mode:	LCD
Available Signal Input:	1 Battery temp., 1 ambient temp., 2 common DI
Alarm Output:	4 Dry Contact Outputs
Communication Ports:	RS232/485, SNMP (Optional)
Environmental Specifications	
Operating Temperature:	-40 to 65°C (-40 to 149°F)
Storage Temperature:	-40 to 70°C (-40 to 158°F)
Operating Humidity:	5%-95% (Non-Condensing)
Altitude:	0~2000 m

Alarm Settings (-48 VDC Systems)

The following voltage levels shall provide an alarm as stated below

- 1. Low Voltage: -48.0
- 2. High Voltage: -55.9
- 3. Charger High Voltage Shutdown: -56.4

The low voltage alarm at 2.0 Volts per cell allows the alarm system to indicate loss of all charging and allows for sufficient time for technician response before the power plant fails.

The high voltage alarm at 2.33 Volts per cell allows the high voltage alarm to activate prior to automatic shutdown of the charger(s).

The charger high voltage shutdown at 2.35 volts per cell allows the high voltage alarm to activate prior to the shutdown of a charger.

6.3.6.14 -48 VDC Battery Strings for Rack-Mounted Backup Power Systems

At each Gonzales County site equipment shelter provide and install two -48 VDC battery strings. Connect the strings in parallel and connect the battery system to the rectifier output terminals.

Battery strings shall be made up of Absorbent Glass Material (AGM) Valve Regulated Lead Acid (VRLA) battery cells. Batteries must be manufactured directly in a facility owned by the manufacturer and located in North America. Battery manufacturer shall have at least 20 years of experience in the manufacture of VRLA batteries.

-48 VDC Battery Plant Specifications for Rack-Mounted Backup Power Systems

Design Load Current at Float Voltage:	24 Amps
Required Current per String:	12 Amps (Based on 8-hour discharge rate)
Number of -48 VDC Strings:	2 (4 X 12 VDC batteries per string)
Amp-Hour Rating (per string @ 8-hour rate):	96 AH to an End of Discharge voltage of 1.75 V/cell at 77°F.
Cell Model Number:	Deka (East Penn) Unigy 12AVR100ET or Enersys PowerSafe 12V100F(or approved equivalent)
Battery String Configuration:	4 cells wide per string; 2 strings high
Battery String Dimensions:	17.3" wide X 19.99" deep X 9.37" high
Battery String Mounting	19" Rack-Mount Battery Shelf (1 per string)
Battery String Rack Space (2 Strings)	~12 RU
Battery String Weight:	276 lbs. per string

6.3.6.15 -48 VDC Breaker Panels

See 6.3.6.10 for requirements for -48 VDC breaker panels for sites with Rack-Mounted Backup Power Systems.

6.3.6.16 Battery String to Rectifier Connections for Rack-Mounted Backup Power Systems

For -48 VDC systems the interconnections between the battery strings and the battery feed point at the rectifier/charger system shall be made using stranded Extra Flexible power wire with a cotton outer braid and with a minimum wire size of 1/0 AWG (Southwire Telcoflex L4 or approved equivalent). For longer cable runs, increase the wire size to provide a minimum loop voltage drop of 0.5 Volts at the rated load current. Terminate cables with suitable long-barrel lug-type two-hole irreversible compression terminations (Burndy YA series or approved equivalent).

See 8.5.2.6 above for detailed specifications for the Telcoflex L4 wire.

6.3.7 UPS Systems

6.3.7.2 Uninterruptable Power Supply (UPS)

- A. The Contractor shall provide a single phase, online, double conversion, static type, uninterruptible power supply (UPS) at sites having equipment that is incapable of DC power. UPS shall provide following features:
 - 1. Surge suppression
 - 2. Input harmonics reduction
 - 3. Rectifier / charger
 - 4. Inverter
 - 5. Static bypass transfer switch

- 6. Battery and associated disconnect device
- 7. Internal maintenance bypass / isolation switch
- 8. Output isolation transformer
- 9. Remote monitoring
- 10. Battery monitoring
- 11. Browser-based remote monitoring and control provisions
- 12. SNMP reporting capability
- B. UPS sizing shall include all proposed equipment, excluding HVAC, and shall include a 50% load expansion factor. Battery capacity shall be expandable to support this load at the run time specified herein.
- C. Sizing calculations shall include the following:
 - 1. Calculated output with a 50% expansion factor as stated
 - 2. 60 Hz
 - 3. 0.8 Power Factor
 - 4. All constant loads
 - 5. Control channel repeater at 100% duty cycle
 - 6. Voice channel repeaters at 20% duty cycle
 - 7. Supplied backhaul and network equipment
 - 8. Minimum four-hour runtime
 - 9. 24 hours (minimum) recharge time to 99% capacity (including all loads)
- D. Quality Assurance:
 - 1. Electrical components, devices, and accessories shall be listed and labeled, as defined in NFPA 70, by a qualified testing agency and marked for intended location and application.
 - 2. UL compliance shall be listed and labeled under UL 1778 by a Nationally Recognized Testing Laboratory (NRTL).
 - 3. UPS components shall be suitable for installation in remote communications facilities equipped with generators.
- E. External Electrical Connections
 - 1. Contractor shall be responsible for installation of new dedicated electrical circuit on the primary distribution panel for the UPS should one not exist.
 - 2. A minimum of six breakers shall be provided on the UPS load side. A minimum of three shall be used. Each set of two repeaters shall utilize a dedicated breaker, and all control and networking equipment, including multicoupler, shall use a third dedicated breaker, at a minimum.
- F. Operational Requirements:
 - 1. Automatic operation includes the following:

- a. Normal Conditions Load is supplied with power flowing from the normal power input terminals, through the rectifier-charger and inverter, with the battery connected in parallel with the rectifier charger output.
- b. Abnormal Supply Conditions If normal supply deviates from specified and adjustable voltage, voltage waveform, or frequency limits, the battery supplies energy to maintain constant, regulated current.
- c. If normal power fails, energy supplied by the battery through the inverter continues supplyregulated power to the load without switching or disturbance.
- d. When power is restored at the normal supply terminals of the system, controls automatically synchronize the inverter with the external source before transferring the load. The rectifier-charger then supplies power to the load through the inverter and simultaneously recharges the battery.
- e. If the battery becomes discharged and normal supply is available, the rectifier-charger charges the battery. On reaching full charge, the rectifier-charger automatically shifts to float-charge mode.
- f. If any element of the UPS system fails and power is available at the normal supply terminals of the system, the static bypass transfer switch switches the load to the normal AC supply circuit without disturbance or interruption.
- g. If a fault occurs in the system supplied by the UPS, and current flows in excess of the overload rating of the UPS system, the static bypass transfer switch operates to bypass the fault current to the normal AC supply circuit for fault clearing.
- h. When the fault has cleared, the static bypass transfer switch returns the load to the UPS system.
- i. If the battery is disconnected, the UPS continues to supply power to the load with no degradation of its regulation of voltage and frequency of the output bus.
- 2. Manual operation includes the following:
 - a. Turning the inverter off causes the static bypass transfer switch to transfer the load directly to the normal AC supply circuit without disturbance or interruption
 - b. Turning the inverter on causes the static bypass transfer switch to transfer the load to the inverter
- 3. Controls and indications:
 - a. Basic system controls shall be accessible on a common control panel on the front of the UPS enclosure, and via password-protected IP connection.
- G. Other Requirements:
 - 1. UPS shall not generate objectionable levels of noise.
 - 2. Units shall support serial or Ethernet-based signaling to provide soft shutdowns of critical site equipment susceptible to data corruption.

- 3. UPS and associated batteries shall be mounted minimize floor space and make best use of vertical space when possible.
- 4. Each battery shall be labeled with a date of installation, and anticipated battery replacement date if known.
- 5. All equipment shall have controls showing show current load, battery condition and remaining run time.
- 6. Batteries shall be replaceable without moving a secured chassis, and with unit in normal operation.
- 6.3.7.3 Delivery, Storage, and Handling
 - A. Deliver, store, protect and handle products with adequate protection against damage. Avoid breakage, denting and scoring finishes. Do not install damaged equipment.
 - B. Deliver material to work site in original factory packaging.
 - C. Store batteries, rectifiers, and other DC power system components and accessories in original cartons or shipping containers and in a clean dry space; protect from weather and construction traffic. Wet materials should be unpacked and dried before storage.
- 6.3.8 Backup Power Field Testing
 - A. Perform and document the following tests for each -48 VDC Backup Power System.
- 6.3.8.2 Ground Fault Test
 - A. Test each tray of cells for ground faults prior to installation as soon as the batteries are received from the manufacturer, after the battery trays have been installed in the racks at each site, and one week after installation of the battery system. Perform the tests as follows:
 - B. Connect a megohm meter (Extech 380360 or equivalent) between the tray and one of the terminals of the cell (or one terminal of a series of cells if the cells are strapped together). Set the test set for 2000 megohms with 1000 Volt test voltage. If the value is above 2000 megohms the batteries are acceptable for installation. If a lower value is obtained, isolate the problem cell by disconnecting the intercell connectors, and replace the bad cell or cells with a new cell.

6.3.8.3 Battery Impedance Tests

A. Using the battery impedance tester that will be used by Gonzales County to perform long term testing of the battery system, perform a battery cell impedance (or internal cell resistance, depending upon the test equipment used) measurement of each cell in the battery bank and record the results to establish a baseline for each cell. Compare the values with the manufacturer's specifications for the battery cell. Values should be within approximately ±20% of the manufacturer's nominal specification. Perform these tests one week after battery plant has been put into service.

6.3.8.4 Battery Discharge Test

A. Perform a 2-hour discharge test on each battery string, one string at a time. Connect a load bank to the battery string to be tested. Place the load bank outside of the equipment room in which the tests are being performed in order to prevent the heat from the load bank from increasing the ambient temperature surrounding the battery bank. Monitor the load current and adjust the current to within 1% of the manufacturer's published current for the installed battery type for a 2-hour rate, adjusting the load bank to maintain the load current within this tolerance during the entire 2-hour test. Record the current,

the individual cell voltages, and the voltage for the entire string every 5 minutes during the 2-hour discharge period. At the end of the 2-hour discharge period, confirm that the string voltage is no lower than 21.0 Volts (for 24 VDC systems) or 42.0 Volts (for 48 VDC systems) and that no individual cell has a voltage lower than 1.75 Volts. If any cells have a measured voltage less than 1.75 Volts at the end of the test, perform a full recharge of the battery string and repeat the test. If the cell does not meet the 1.75 Volt requirement after the second test, replace the cell. Make test measurements with a logging meter or "electronic" strip chart recorder and provide measurement files and software to read the files to the county's Engineer or Engineering Representative.

6.3.8.5 Test Reports

A. Submit a DC Power System Test Report to county's Engineer or Engineering Representative within 30 days of completion of the tests described above. The report shall contain the results of all the tests in this section in tabulated form to clearly indicate results of each test. Include equipment configuration diagrams showing the configuration of test equipment for each test and a description of test conditions and how the tests were performed.

7 Training

7.3 General

- A. The Contractor shall provide direct training for system administrators, dispatch personnel and field users. Field user training shall be based on a train-the-trainer approach. The Contractor shall assume that all direct user and trainer training will be conducted in facilities owned or operated by the County.
- B. It is expected that subscriber and system maintenance will be the responsibility of the Contractor or a Contractor-trained and certified communications provider. Thus, no technician-level training of County personnel will be required.
- C. The Contractor shall develop a training plan, which shall be subject to the County's approval. It is expected that this plan will include hands-on use. All training materials produced by the Contractor shall become the property of the County.
- D. The County expects training will encompass the following general categories:
 - 1. <u>System Administrator</u> System management, data retrieval, alarms, diagnostics & reports (two sessions, three days/session, each with three staff members)
 - 2. <u>Dispatch Centers</u> Operational training on radio workstations, backup control stations some field equipment (two sessions, one day/session, with three people estimated per session)
 - 3. <u>Field Users (Train the Trainer)</u> Mobiles and portables (ten trainers; 3 to 4 staff members per training session; two sessions from 8AM-12PM; one session from 1PM-5PM).
- E. For the purposes of providing hands-on training and to the greatest practical extent, all sessions shall use equipment that is fully system operational. Thus, training shall be conducted on a live system.

8 System Implementation, Test, and Acceptance

8.1 General

A. The Contractor is fully responsible for installing, configuring and commissioning the furnished equipment and related accessories, and assisting with the equipment's interface to other existing systems as specified herein.

- B. The Contractor is responsible for providing all materials, cabling/wiring, labor, tools and instrumentation to ensure a complete and successful commissioning. All tools and instrumentation shall be considered normal and customary items owned by the Contractor.
- C. All work related to the equipment installations and commissioning will be supervised and performed in accordance with the manufacturer's recommendations and the installation standards of the County. In the event certain aspects of the manufacturer's recommendations and the installation standards of the County conflict, the most stringent practices shall prevail.
- D. Prior to the commencement of site work, the Contractor shall coordinate with the site owners or their representatives, as well as the County staff to assure compliance with any special provisions applicable to the site.
- E. Contractors shall assume that sufficient physical space for the installation of equipment and antennas exists at each site unless described otherwise herein.
- F. Placement/mounting of equipment or related accessories on the racks or cabinets shall be approved by the County prior to beginning parts procurement activities.
- G. Electrical work shall be performed in accordance with the County's Standard Electrical Provisions, and with national, state, and local electrical codes, and applicable industry standards, as required.
- H. Contractors are responsible for connecting all furnished equipment to existing electrical circuits unless specified otherwise herein. Contractor shall advise the County when additional circuits or outlets are needed.
- 8.3 Fleet Mapping
 - A. Contractor shall work closely with the County to develop fleet maps for each participating agency. The fleet map shall contain at a minimum:
 - 1. Talkgroup IDs
 - 2. Agency
 - 3. Emergency actions
 - 4. Encryption capability
 - 5. Roaming capability
 - 6. Priority
 - B. Each participating agency will be given the opportunity to test up to eight (8) subscriber radios prior with the new fleet map configuration. If the fleet mapping requires modifications, the Contractor shall modify the fleet map and allow for more testing by the County. There shall be no limit on the number of changes required during fleet mapping in order to ensure the needs of the users are met.
 - C. Contractor shall anticipate at least two fleet map revisions per agency within the warranty period.
 - D. Some agencies already own subscriber equipment. Contractor shall reprogram such subscriber equipment that is from the same manufacturer of the proposed radio system.
- 8.4 Factory Staging
 - A. Staging tests shall be conducted and performed in the United States.
- 8.5 System Shipping/Delivery

- A. For equipment delivered directly to the County, the Contractor shall submit a Bill of Materials / packing list for each shipment. The packing list shall include the following information (minimum) for each component included in the packaging:
 - 1. Manufacturer
 - 2. Model
 - 3. Serial number
 - 4. Unique identification of the package containing the item
- B. The Contractor shall be responsible for coordinating, unloading, inspecting, accepting and storing all material deliveries. County personnel shall be excluded from performing any of these activities.
- C. All claims necessary as a result of damage or loss during shipment shall be the responsibility of the Contractor.
- D. All equipment shall remain the responsibility of the Contractor until it is permanently installed and the Contractor has notified the County.
- 8.6 System Installation
 - A. All installations shall be performed by factory certified or Contractor-affiliated service shops. Others may be used upon mutual agreement between the County and the Contractor. Installation shall be performed by qualified and adequately trained personnel familiar with this type of work.
 - B. All materials furnished and work completed shall be subject to inspection by the County or the County's engineer. Installation and optimization of the system shall follow manufacturers guidelines.
 - C. All equipment must be supplied in an unused condition. All installed equipment and devices shall be cleaned internally and externally. All damage shall be repaired.
 - D. Worksites shall be maintained in order upon completion of work each day. All debris shall be removed weekly. All shelter floors will be cleaned prior to acceptance.
 - E. The County and/or the County's representative shall conduct an inspection of the installations upon substantial completion. Any deficiencies shall be documented on a single punch list and provided to the Contractor for resolution.
 - F. The County reserves the right to be present and witness any portion of the installation and/or system optimization.
- 8.7 System Acceptance Testing
 - A. A single Acceptance Test Plan will be developed and used as the controlling document for Staging and Implementation Acceptance Tests.
 - B. The ATP will describe the purpose of all tests, expected results, and the test procedure. It shall also contain joint sign-off areas.
 - C. The detailed draft ATP shall be submitted no later than 40 business days before the testing commences.

- D. The ATP consists of Staging, Implementation and Structured/Unstructured Acceptance Tests. The Contractor shall be responsible for initially proposing and conducting the Staging and Implementation Acceptance Tests. The County may propose Unstructured Acceptance Tests as needed. These could be conducted by the County, Contractor, or both.
- E. Staging Acceptance consists of comprehensive set of component, subsystem and basic functional tests. They demonstrate that equipment is configured properly, meets expected feature and performance requirements, and is ready to be shipped and installed. Sub-systems may include repeaters, controllers, combiners, multicouplers, backup power, etc. Feature tests include basic calling and messaging, call access, setup and completion performance, site fallback modes, etc.
- F. Implementation Acceptance consists of comprehensive integrated tests that demonstrate proof of performance and readiness for regular use by the County. These may include various call handling and failure modes (possibly similar to those under Staging), site registration/affiliation and roaming (if applicable), receiver desensitization, noise and interference, backup power, backhaul interface stability and reliability, and shall include subscribers and dispatch workstations. Coverage Acceptance Tests and DAS shall also be part of Implementation Acceptance tests. These tests shall be conducted following successful installation (at a minimum).
- G. Structured / Unstructured tests may be developed and conducted by the County (or their representative), the Contractor, or both. They are usually intended to demonstrate system operation from a field or dispatch user's perspective. They may consist of subsystem and/or integrated tests, and often simulate common conditions which effect overall system reliability and recovery (loss of utility or backup power, RF interference, loss of site connectivity, etc.).
- H. Structured / Unstructured tests may also include a typical 30-day test period where the system is tested by administrators and users specifically to verify acceptable operation. While limited business may be conducted on the radio system, the County will not be receiving beneficial use during such a period.

ATP Component	Perform During Staging	Perform During Implementation
Subsystem Acceptance Tests	YES	
Integrated Acceptance Tests		YES
Structured / Unstructured Acceptance Tests	AS NEEDED	AS NEEDED

I. Acceptance Tests shall be performed as summarized below:

8.8 Radio Coverage Measurement

- A. The Contractor shall propose a Coverage Acceptance Test Plan methodology. The test plan shall generally incorporate the following aspects in this Section.
- B. The Contractor shall propose a plan that divides the service area into a grid pattern to create tiles fir test measurement purposes. The TSB-88 Estimate of Proportions analysis shall be used to determine the number and size of the test tiles.
- C. The methodology shall measure signal strength and bit error rate (BER). Grids that do not pass the BER measurement may be subject to voice DAQ testing to determine passing or failing. BER and DAQ criteria were specified in Section 3.4.3.

- D. Measurements shall be performed for both talk-in and talk-out directions. Each direction shall be separately recorded and establish separate statistics. Tests shall be performed while in motion.
- E. In each test tile, a single attempt to access the system will be made by pressing the push-to-talk button (automatic re-tries are permitted). If the test radio does not receive a channel grant tone in that tile, the access test for that location has failed.
- F. Testing will be performed using mobile radios provided by the Contractor under the contract. Where the coverage requirement is for portable service area, attenuators may be used to emulate the portable radios.
- G. When required, DAQ scoring shall be conducted by a voting "team" consisting of one representative each from the affected agency, a County representative, and the Contractor. The three voting representatives will each listen to the message for each test tile. Two out of three votes shall determine whether a test tile is passed or failed.
- H. The Contractor shall provide the vehicles for Coverage Acceptance Testing and a driver for each field testing team.
- I. Test tiles will use publicly accessible roads and private roads where permitted. All accessible test tiles within the service area will be tested. Inaccessible test tiles will not be included in the calculations of system coverage performance.
- J. In the event the coverage test fails to meet the coverage guarantees, the Contractor shall make corrections and require a re-test.
- K. All reasonable costs for re-testing, including those incurred by County for its personnel, County Representatives, and other contractor, and any expenses (including time, travel, lodging, meals, etc.), shall be borne by the Contractor.

8.9 Cutover

The Contractor shall provide all necessary personnel required to support the cutover for each agency. Cutover will not occur until all punch list items have been resolved and all installation and testing procedures have been executed and passed. The County reserves the right to begin the cutover process in the event there are existing open punch list items

8.10 30-Day Operational Test Period

- A. Upon successful completion of system acceptance testing and completion of cutover, the County may choose to operate the system is a fully-loaded configuration using normal operating parameters.
- B. Should a critical or reoccurring failure occur during this period the system will be repaired by the Contractor and the thirty (30) day test will restart for an additional thirty (30) days. The Contractor and the County will mutually define critical failures.

8.11 As-Built Documentation

Project document shall be supplied in accordance with the following requirements. These documents are considered part of final systems acceptance.

8.11.6 Composite Manuals

Two manuals which are a composite of information covering all equipment supplied for each site shall be provided. The composite manuals shall be delivered with the radio equipment. They shall contain the information in Section 8.11.8 below.

8.11.7 Site Manuals

One manual for each site, containing information pertinent to the equipment supplied with each terminal, shall be shipped with the equipment. They shall contain the information in Section 8.11.8 below, Subsections H through S.

8.11.8 Instruction Manual Requirements

Manuals shall include material to similar standards for all items integrated into Contractor's equipment at each site. Separate binders for equipment not manufactured by Contractor are acceptable only when the page count is too high for incorporation as a section of Contractor's own manual. The minimum content for manuals shall be as follows:

- A. Table of Contents.
- B. Titles (the specific radio terminals and equipment shall be identified).
- C. Description and Theory of Operation, including Block Diagrams, for each module, card, and subassembly.
- D. Installation and Interconnection Instructions.
- E. Backplane, Motherboard Schematics, and wiring Diagrams, if applicable.
- F. Outline and Mounting Dimensions of Equipment.
- G. Equipment Power Consumption (itemizing the drain of the individual units installed in the rack and the total rack consumption).
- H. Complete Replacement Parts List and Ordering Information for each module, card and subassembly.
- I. Strapping and Program Options for each module, card, and subassembly.
- J. Turn-on and Alignment Instructions in Step-by-Step Form, and List of Required Test Apparatus, Cords, Adapters and Accessories. Alignment instructions shall include all procedures available to Contractor's field service personnel.
- K. Maintenance and Troubleshooting Instructions, including Required Test Equipment and Accessories List, Diagnostic Flow Charts (to permit analysis down to a faulty module), Module Replacement Procedures, and Realignment Requirements.
- L. Complete Operational Block and Level Diagrams of the System and Subassemblies (signal flow, transmit and receive levels, test points and interconnecting points between subassemblies shall be clearly delineated).
- M. Wiring diagrams showing intra-shelf, intra-rack and inter-rack wiring and cabling. Terminal block connections, wire color code, cable designations and plug connections shall be included.
- N. Rack elevation Drawings (identifying individual units and their position in the rack).
- O. Standard Factory Test Data and County's Factory Acceptance Test Data (for each terminal with test data being identified by site name and by coordinating site name).
- P. Field test reports and data
- Q. Tower drawing(s) showing any new installations

- R. FCC Log Form: Each radio assembly manual shall contain blank forms on 8-1/2 x 11 inch paper covering all readings to be recorded which verify proper operation of the assembly under Part 101 of the FCC Rules and Regulations.
- S. List of Abbreviations.
- A. One electronic copy of the documents above shall be provided on removable USB media in Adobe PDF format. This media shall also include a separate directory for original files (source spreadsheets, drawings, documents, etc.).

9 Warranty, Maintenance, and Support Requirements

- 9.1 Warranty Requirements
 - A. All equipment furnished, including its hardware and software components, shall be fully warranted to be free from defects in material and workmanship for a period of one (1) year from the date of complete system acceptance.
 - B. Contractor shall provide annual costs for extended warranty for years two through five for each of the following subsystems:
 - Fixed Trunked Radio System
 - Dispatch Workstations
 - Control Stations
 - C. Warranty shall include all costs, inclusive of travel, for materials and labor, and activities related to product registration along with required software and firmware upgrades as needed to ensure optimal system operation and security.
 - D. Warranty coverage must indicate how the following components are supported:
 - Hardware refresh (if any)
 - Minor Release Software and Firmware
 - Major Release Software and Firmware
 - E. Warranty must include one Preventative Maintenance response. See Section 9.3 for details.
 - F. At the end of the warranty period, contractor shall transfer all warranty related records to the County.
 - G. The County requires the following, not to exceed, response and service times during the warranty period:
 - 1. 24-hour x 7-day coverage (Note 1)
 - 2. 4 hour OSR (on-site response) for dispatch workstation and system-wide issues
 - 3. 4 hour repair or exchange for dispatch workstation and system-wide issues (from arrival)
 - 4. 2 week turnaround (or exchange) for mobiles, portables and non-dispatch control stations
 - H. Note 1: After-business-hour coverage response will usually be restricted to Level 1 or Level 2 failures as described herein.

- I. Costs associated with this type of service shall be included in the pricing section of the proposal response.
- 9.2 Parts Availability Requirements
 - A. The Contractor shall maintain replacement parts for all delivered equipment for a period of seven (7) years beyond final system acceptance.
 - B. In the event the Contractor must discontinue stocking any part required for maintenance after this point due to supplier limitations, the Contractor shall send written notice to the County twenty-four (24) months prior to the date of discontinuance and maintain support for five years.
- 9.3 Post-Warranty Maintenance
- 9.3.1 Preventive
 - A. The County expects such maintenance to be performed at regularly scheduled intervals in accordance with the recommendations of the manufacturer. At a minimum, Contractor shall perform the agreed-upon preventive maintenance annually during the warranty period, or as often as recommended by the manufacturer (whichever is more stringent). This maintenance shall be limited to the hardware and software furnished by the Contractor.
 - B. Costs associated with this type of service shall be clearly and individually identified in the pricing section of the response.
- 9.3.2 Post-Warranty
 - A. After the conclusion of the warranty period the County will decide whether to assume maintenance responsibility for the system furnished by the Contractor.
 - B. Contractor shall provide pricing for ongoing maintenance at their highest level with annual costs associated with that level of maintenance for years two through seven. Additionally, contractor shall provide a comprehensive list of services associated with their highest level of service.
 - C. Break/Fix (reactive) maintenance will comply with the response times described in the Warranty Section.

Appendices

Appendix A - Compliance Matrix

C – Comply CC – Comply w/Clarification E – Exception

Section No.	Section Title	Comply (C/CC/E)	Clarification or Exception
1.4	Proposals Desired		
1.4.1	Standards and Guidelines		
1.4.2	Frequency Coordination and Licensing		
1.4.3	Project Management		
1.4.4	Site Surveys		
1.4.5	Quality Assurance and Control (QA/QC)		
1.4.6	Project Submittals		
1.4.7	Preliminary Design		
1.4.8	Final Design		
1.4.9	As-Built Documentation		
1.4.10	Project Scope and Cost Control		
1.4.11	Project Schedule		
1.4.12	Clearances		
3	Radio Communications System Requirements		
3.1	Overview		
3.2	Redundancy and Survivability		
3.3	Radio System Capacity		
3.3.1	Grade of Service (GoS)		
3.3.2	Expansion		
3.4	Radio System Coverage		
3.4.1	Coverage Area Requirements		
3.4.2	Coverage Responsibility		
3.4.3	Basis of Voice Coverage Design		
3.4.4	Required Coverage		
3.4.5	Radio Coverage Model and Maps		
3.4.6	Link Budgets		
3.5	Project 25 (P25) System Feature Requirements		
3.5.1	Radio Communications System Control Equipment		
3.5.2	Simulcast Equipment		
3.5.3	Over-the-Air Programming (OTAP)		
3.5.4	Encryption		
3.5.5	Over-the-Air Rekeying (OTAR)		
3.5.6	Receiver Voting		
3.5.7	Base Station Equipment		

3.5.8	Antenna Systems		
3.5.9	Dispatch Workstation Subsystem		
3.5.10	Network Management System (NMS)		
3.5.11	P25 Inter-RF Subsystem Interface (ISSI)		
3.5.12	Voice Logging System		
4	Backhaul Network Requirements		
4.1	General Backhaul Network Requirements		
4.2	Fiber Optic Communications Backbone Cabling		
4.2.1	General		
4.3	Licensed Digital Microwave Network		
4.3.1	Frequency Coordination and FCC Licensing		
4.3.2	Documentation Requirements		
4.3.3	System Requirements		
4.3.4	Electromagnetic Interference		
4.3.5	Physical Conditions		
4.3.6	Microwave Equipment Requirements		
4.3.7	Transmission Requirements		
4.3.8	Packet Features & Specifications		
4.3.9	Grounding		
4.3.10	Physical Conditions		
4.4	Microwave Antenna Systems		
4.4.1	General		
4.4.1 4.4.2	General Antenna Specifications		
4.4.1 4.4.2 4.4.3	General Antenna Specifications Waveguide		
4.4.1 4.4.2 4.4.3 4.4.4	General Antenna Specifications Waveguide Grounding		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5	General Antenna Specifications Waveguide Grounding Pressurization System		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5	General Antenna Specifications Waveguide Grounding Pressurization System Backhaul Network Management		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1	General Antenna Specifications Waveguide Grounding Pressurization System Backhaul Network Management General		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2	General Antenna Specifications Waveguide Grounding Pressurization System Backhaul Network Management General Communications		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System Support		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3 4.5.4	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management Interfaces		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3 4.5.4 4.5.5	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3 4.5.4 4.5.5 4.5.5 4.5.6	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System Implementation		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3 4.5.4 4.5.5 4.5.5 4.6	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactory		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3 4.5.4 4.5.5 4.5.6 4.6 4.6.1	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance Test		
4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.5 4.5 4.5.1 4.5.2 4.5.3 4.5.4 4.5.5 4.6 4.6.1 4.6.2 4.6.3	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance TestFactory Acceptance Test		
$\begin{array}{r} 4.4.1 \\ 4.4.2 \\ 4.4.3 \\ 4.4.4 \\ 4.4.5 \\ 4.5 \\ 4.5 \\ 4.5.1 \\ 4.5.2 \\ 4.5.3 \\ 4.5.4 \\ 4.5.5 \\ 4.6 \\ 4.6.1 \\ 4.6.2 \\ 4.6.3 \\ 4.6.4 \\ \end{array}$	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance TestFactory Acceptance TestMicrowave Radio Equipment Installation		
$\begin{array}{r} 4.4.1 \\ 4.4.2 \\ 4.4.3 \\ 4.4.4 \\ 4.4.5 \\ 4.5 \\ 4.5 \\ 4.5 \\ 4.5.1 \\ 4.5.2 \\ 4.5.3 \\ 4.5.4 \\ 4.5.5 \\ 4.6 \\ 4.6.1 \\ 4.6.2 \\ 4.6.3 \\ 4.6.4 \\ 4.6.5 \\ \end{array}$	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance TestFactory Acceptance TestMicrowave Radio Equipment InstallationMicrowave Antenna and Waveguide Installation		
$\begin{array}{r} 4.4.1 \\ 4.4.2 \\ 4.4.3 \\ 4.4.4 \\ 4.4.5 \\ 4.5 \\ 4.5 \\ 4.5.1 \\ 4.5.2 \\ 4.5.3 \\ 4.5.4 \\ 4.5.5 \\ 4.6 \\ 4.6.1 \\ 4.6.2 \\ 4.6.3 \\ 4.6.4 \\ 4.6.5 \\ 4.6.6 \\ \end{array}$	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance TestFactory Acceptance TestMicrowave Radio Equipment InstallationMicrowave Field Testing		
$\begin{array}{r} 4.4.1 \\ 4.4.2 \\ 4.4.3 \\ 4.4.4 \\ 4.4.5 \\ 4.5 \\ 4.5 \\ 4.5 \\ 4.5.1 \\ 4.5.2 \\ 4.5.3 \\ 4.5.4 \\ 4.5.5 \\ 4.6 \\ 4.6.1 \\ 4.6.2 \\ 4.6.3 \\ 4.6.4 \\ 4.6.5 \\ 4.6.6 \\ 4.6.7 \\ \end{array}$	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance TestFactory Acceptance TestMicrowave Radio Equipment InstallationMicrowave Field TestingAntenna Alignment		
$\begin{array}{r} 4.4.1 \\ 4.4.2 \\ 4.4.3 \\ 4.4.4 \\ 4.4.5 \\ 4.5 \\ 4.5 \\ 4.5.1 \\ 4.5.2 \\ 4.5.3 \\ 4.5.4 \\ 4.5.5 \\ 4.6 \\ 4.6.1 \\ 4.6.2 \\ 4.6.3 \\ 4.6.4 \\ 4.6.5 \\ 4.6.6 \\ 4.6.7 \\ 4.6.8 \\ \end{array}$	GeneralAntenna SpecificationsWaveguideGroundingPressurization SystemBackhaul Network ManagementGeneralCommunicationsManagement System SupportNetwork Management InterfacesLocal Display and Control Panel(s)Microwave System ImplementationFactoryPre-Factory Acceptance TestFactory Acceptance TestMicrowave Radio Equipment InstallationMicrowave Field TestingAntenna AlignmentMeasurement Errors		

5	Subscriber Radio Equipment	
5.1	General	
5.1.1	Dispatch Control Stations	
5.1.2	Electrical & Mechanical Design	
5.1.3	Features & Functionality	
5.1.4	Specifications	
5.1.5	Desktop Remote Features & Functionality	
6	Facilities and Infrastructure Development Req.	
6.1	General Requirements	
6.2	Radio Communications Tower Requirements	
6.3	New Site Development Requirements	
6.3.1	General Requirements	
6.3.2	Automatic Transfer Switch (ATS) Requirements	
6.3.3	Fensing Requirements	
6.3.4	Equipment Shelter Requirements	
6.3.5	Generator Requirements	
6.3.6	Backup Power Systems	
6.3.7	UPS Systems	
6.3.8	Backup Power Field Testing	
7	Training	
7.1	General	
8	System Implementation, Test, and Acceptance	
8.1	General	
8.2	Fleet Mapping	
8.3	Factory Staging	
8.4	System Shipping/Delivery	
8.5	System Installation	
8.6	System Acceptance Testing	
8.7	Radio Coverage Measurement	
8.8	Cutover	
8.9	30-Day Operational Test Period	
8.1	As-Built Documentation	
8.10.1	Composite Manuals	
8.10.2	Site Manuals	
8.10.3	Instruction Manual Requirements	
9	Warranty, Maintenance, and Support Req.	
9.1	Warranty Requirements	
9.2	Parts Availability Requirements	
9.3	Post-Warranty Maintenance	
9.3.1	Preventive	
9.3.2	Post-Warranty	

Appendix B- Bid Form

Project	Gonzales County Radio Communications System Improvements GLO No. 22-085-052-D305				
Name:					
Owner:	County of Gonzales				
By its signate Work, ackno work in acco	ure below, Bidder accepts all of the terms and conditions of the Bid Acknowled wledges receipt of all Addenda to the Bid and agrees, if this Bid is accepted, to rdance with the Contract Documents for the Bid price.	dgement, has o enter into a	reviewed Contract w	and acknowledge vith the Owner an	s the Description of d complete the
Bidder:			(full legal na	me of Bidder)	
Signature:			(signature of	person with authority	to bind the Bidder)
Name:			Inrinted nom	, e of person signing Rig	r Form)
Title:			/sitia of corre	n cinning Rid Form)	
nue.			[una of barse	ni signing bia Portinj	
Attest:			(signature)		
			(State of Residency)		
Federal Tax ID No.					
Address for Notices:					
Phone:	E-Mail Address:				
Basis of Bi	d				
ltem	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
	Base Bid				
Connect					
General	Mabilization (18: Maximum)	1	15		e .
2	Bonds & Insurance (2% Maximum)	1	LS		s -
	-				•
Belmont Imp	provements				
3	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5 channels)	1	ى		s -
4	Furnish and Install Belmont Antenna System and mounting hardware	1	LS		\$ -
5	Furnish and Install Belmont 300 ft Self Supporting Tower	1	EA		\$ -
6	Furnish and Install Tower Foundations	1	LS		\$ -
7	Furnish and install waveguide bridge	1	EA		ş -
8	Furnish and Install Communications Shelter (10'x10' min., foundation, lighting, HVAC)	1	2		ş -
	Furnish and Install & new electrical service	1	EA		2
11	Furnish and Install Reimont Electrical Connections	-	15		· ·
12	Furnish and Install Belmont Backhaul and associated Network Management System	1	15		\$.
13	Furnish and install a new fenced compound with weed barrier and gravel base	1	کا		\$ -
14	Furnish and install tower, compound, and shelter grounding systems	1	LS		\$ -
Waelder Improvements					
	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5		15		
15	channels Eurnish and Install Waelder Antenna System and mounting bardware	1	15		2 · ·
17	Furnish and Install Waelder 300 ft Self Supporting Tower	1	EA		\$.
18	Furnish and Install Waelder Tower Foundations	1	2		\$ -
19	Furnish and install waveguide bridge	1	EA		\$ -
20	Furnish and Install Communications Shelter (10'x10' min., foundation, lighting, HVAC)	1	LS		\$ -
21	Furnish and install a new electrical service	1	EA		\$ -
22	Furnish and Install New Emergency Generator, 25 kW min., Diesel or Propane, transfer switch	1	LS		\$ -
23					
-	Furnish and Install Waelder Electrical Connections	1	LS		\$ -
24	Furnish and Install Waelder Electrical Connections Furnish and Install Waelder Backhaul and associated Network Management System	1	2		\$ ·
24 25	Furnish and Install Waelder Electrical Connections Furnish and Install Waelder Backhaul and associated Network Management System Furnish and install a new fenced compound with weed barrier and gravel base	1 1 1	2 2		\$ - \$ -
24 25 26	Furnish and Install Waelder Electrical Connections Furnish and Install Waelder Backhaul and associated Network Management System Furnish and install a new fenced compound with weed barrier and gravel base Furnish and install tower, compound, and shelter grounding systems	1 1 1 1	с с с С		· · · · · · · · · · · · · · · · · · ·

Appendix B – Bid Form

Gonzales Im	provements					
27	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5 channels)	1	Ľ		• •	
28	Furnish and Install Gonzales Antenna System and mounting hardware	1	LS		\$ -	
29	Furnish and Install Gonzales 300 ft Self Supporting Tower	Furnish and Install Gonzales 300 ft Self Supporting Tower 1 EA				
30	Furnish and Install Gonzales Tower Foundations	1	LS		\$ -	
31	Furnish and install waveguide bridge	ge 1 EA \$				
32	Furnish and install a new electrical service	1	EA		\$ -	
33	Furnish and Install Waelder Electrical Connections	1	LS	\$		
34	Furnish Gonzales Backhaul and associated Network Management System	1	LS		\$ -	
35	Furnish and install a new fenced compound with weed barrier and gravel base	1	LS		\$ -	
36	Furnish and install tower, compound, and shelter grounding systems	1	21		\$ -	
Smiley Impro	ovements					
37	Furnish and Install Smiley Antenna System and mounting hardware	1	15		\$ -	
38	Furnish and Install Smiley Backhaul and associated Network Management System	1	15		\$ -	
	Furnish and Install 700/800 MHz Trunked Repeaters and backup power system; (no less than 5					
39	channels)	1	LS		\$ -	
40	Furnish and Install Smiley Electrical connections	1	21		s -	
					\$ -	
Sheriff's Offi	ce Improvements					
41	Network Interface Hardware	1	15		\$ -	
42	Furnish and Install Console/Workstations, Backup Control Stations	2	EA		\$ -	
43	Furnish and Install Logging Recorder	2	EA		s -	
44	Furnish and Install Sheriff's Office Backhaul and associated Network Management System	1	2		\$ -	
45	Furnish and Install Sheriff's Office Electrical Connections	1	LS		\$ -	
Gonzales Police Department Improvements						
46	Furnish and Install Console/Workstation, Backup Control Station	1	EA			
47	Furnish and Install Logging Recorder	1	EA			
48	Furnish and Install Gonzales PD Electrical Connections	1	2			
49	Furnish and Install Gonzales PD Backhaul and associated Network Management System	1	2			
	Base Bid Total: \$ -					
	Calendar Days to Complete Base Bid		days			

Appendix C - Candidate Tower Site Locations

Site Name	Latitude	Longitude	AMSL (ft.)	Antenna Height (AGL ft.)
BELMONT TOWER	29.52661	-97.689790	440	279
GONZALES TOWER	29.513725	-97.415183	416	279
SMILEY TOWER	29.278525	-97.635539	300	279
WAELDER TOWER	29.688462	-97.280894	380	279

Table 4 –	Proposed	Site	Coordinates
	11000000	Onto	00014114100

Note: Site coordinates are those contained in the Grant documents. These must be used for bidding purposes.

Appendix D - County Service Area



Figure 1 - Gonzales County Service Area with Proposed Sites

The ESRI Shapefile data for this service area is available here:

https://app.box.com/shared/static/2s4px5nkx70bmzvbp0zbvgqdozyx9szj.zip

Appendix E - Bid Submittals

All bid submittal requirements noted in this Section are mandatory. Detailed responses are encouraged.

BID SUBMITTAL FORMAT

- Section A. Executive Summary. The proposed system shall be briefly described in "laymen's" terms to aid the County in understanding what has been proposed. (2 pages max.)
- Section B. Point-by-Point Compliance. Indicate compliance (or variance) for each outline level or bullet point of this RFP as described in Appendix A. Compliance statements are limited to the following three choices:
 - COMPLY The proposal meets or exceeds the specified requirement, as stated in the RFP.
 - COMPLY WITH CLARIFICATION The proposal does not meet the stated requirement, however, meets a substantial portion of, or the intent of the requirement. An explanation must be provided when using this statement. Alternate proposal items would fall under this category of compliance if they meet the intent of the RFP.
 - EXCEPTION The proposal does not meet the specified requirements. Detailed explanation must be provided when using this statement.
- Section C. Subsystem Descriptions. A description of the following proposed subsystems as required in the following sections of the RFP. Include block diagrams and general equipment configurations if applicable. (6 pages per section, max.)
 - Section 3 Radio Communications System Requirements
 - Section 4 Backhaul Network Requirements
 - Section 6 Facilities and Infrastructure Development Requirements
- Section D. Proposed Coverage Prediction Map(s). Provide a proposed coverage map for in-county coverage (mobile and portable) and outside county (mobile and portable) based on the requirements from Section 3.4 Radio System Coverage of this RFP.
- Section E. System Failure Modes and Mitigation. Provide a description of how the network handles common failures and recovery, with emphasis on field user and dispatcher impacts. (2 pages max.)
- Section F. Bidder Qualifications. Submit a system description, contact name, title, telephone number, and address of at least five past customers in which the proposed system model was engineered, furnished and installed by the Bidder. References must be from a system of similar size, design complexity and use. The frequency band must also be specified. A past customer is one that has given Final Acceptance of an integrated system and has fully paid the Bidder, in the past five (5) years.
- Section G. Product Support Commitment. Address each of the following (2 pages max.):
 - What support is provided by manufacturer versus dealer/provider with regard to existing subscriber and fixed infrastructure components, including firmware and software;
 - Describe whether the manufacturer or dealer have product specialists and their locations
 - Note any manufacturer or dealer customer event tracking system
- Section H. Project Price List. Provide pricing in the format and detail required provided in Appendix G.

- Section I. Recurring Cost List. In addition to the summary pricing in Appendix G, provide line-item pricing and description for all recurring costs, divided into mandatory and optional. Recurring costs include, but are not limited to application or system software and firmware licensing, application support services, etc. required for an approximate 5-year period. (1 page max.)
- Section J. Milestone Payment, Implementation Plan & Schedule. Provide an implementation plan and schedule to ensure that the equipment is delivered and installed according to schedule. (1 page max)
- Section K. Warranty, Maintenance, and Support. Provide information required in the Warranty and Maintenance Sections, with the exception of costs. This shall include details on Extended Warranty and Software Support services as well.
- Section L. Specification Cut-Sheets (optional). Specification sheets for repeater/base station, microwave, controller hardware, power systems, combiner, multicoupler, multiplex and all other ancillary devices may be provided in this Section.
- Section M. Other Material. Information the Bidder wishes to submit, but which was not required elsewhere may be included in a separate binder.
Appendix F - Evaluation Criteria

Name of Proposer:

Prepared by:

Criteria	Possible Points	Actual Score	Bid Evaluation Notes	Scoring Guidelines
Quality of Proposal (5 Points)	1 01110	00010	Did Evaluation Notes	
Demonstrates understanding of and consistency with project goals	2			
Fulfills proposal requirements	2			
Overall presentation	1			
The Operation and Design of the Dispatch We	orkstations in	n Meeting	the Functional and Technical Re	equirements of the Users (10 Points)
Technical capabilities, warranty, flexibility	3			
Placement, size and design of the most commonly used controls and display readability	3			
Features that enhance overall reliability	4			
Network's Ability in Meeting the Functional and	nd Technical	Requirem	ents (30 Points)	
Coverage performance and related responsibility commitment	15			
Compatible w. competitive subscriber eqmt., capability & flexibility, capacity, upgradability to future technical advancements, system design; user interface; ability to be upgraded with new features without major hardware replacement.	5			
System/subsystem reliability, backup & recovery, NMS capabilities, ease of reconfiguration	10			
Experience with Similar Projects (10 Points)	[[
Proven track record	3			
Experience and skill set to complete this project	3			
Background, qualifications, and expertise in similar projects	4			
Maintenance and Support, Including Past Per	formance (20) Points)		
Personnel qualifications; network warranty; ability to meet specified response times; service depot, shop and support locations Past performance (if applicable).	20			
Cost Proposal (20 Points)			1	
Project Fee	20			Lowest Cost Proposal: L Proposal Cost being scored: R Maximum Points Possible: P L/B x P = Final Cost Score
Proposed Implementation and Payment Sche	dule & Contr	act Terms	(5 Points)	
Ability to complete the project in a reasonable time period, Implementation schedule, negotiated contract terms (if applicable).	5			
TOTAL POINTS	Possible 100	Score 0		

Appendix G - Detailed Equipment List

Radio Communications System and Related Components

Line Item	Part Description	Site Name	Part Number	Qty.	Price (ea.)	Extended Price
Α	Radio Infrastructure and Network Equipment					
A.1	<>					
A.2	<>					
A.3	<>					
A.n	<>					
В	Microwave, Fiber and Network Equipment					
B.1	<>					
B.2	<>					
B.3	<>					
B.n	<>					
С	DC Power and UPS Equipment					
C.1	<>					
C.2	<>					
C.3	<>					
C.n	<>					
D	Dispatch Control Station			3		
E	Dispatch Workstation			3		
М	Encryption key-fill device			2		
0	Freight					
Р	Тах					

Q	Engineering Services					
R	Program Management					
S	Installation and Testing					
Т	Training					
U	CATP					
Total Capital Costs						
V	Recurring Costs				Total Recurring Costs	
W	Maintenance (Total – Year 2-7)				Total Maintenance Costs	

Facilities and Infrastructure Material

Line Item	Part Description	Site Name	Part Number	Qty.	Price (ea.)	Extended Price
Α	Tower, Foundation and Waveguide Bridge					
A.1	<>					
A.2	<>					
A.3	<>					
A.n	<>					
В	Shelter, Foundation and Associated Components					
B.1	<>					
B.2	<>					
B.3	<>					
B.n	<>					
С	Generators and Transfer Panels					
C.1	<>					
C.2	<>					
C.3	<>					
C.n	<>					
D	Site Work (grading, roadway, fencing, etc.)					
D.1	<>					
D.2	<>					
D.3	<>					
D.n	<>					