
**CITY OF CRESTVIEW
DEPARTMENT OF PUBLIC SERVICES**



**PROJECT MANUAL
for**

FY-2019

Lift Station #9 Renovation

Bid No. 19-0912

**Brona D. Steele
Director of
Public Services**

**Marc D. Bonifay, P.E.
City Engineer**

Bid No. 19-0912
Lift Station #9 Renovation

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SECTION 00020

ADVERTISEMENT FOR BIDS
FOR
CITY OF CRESTVIEW
FY-2019 Lift Station #9 Renovation
BID NO. 19-0912

NOTICE IS HEREBY GIVEN: That sealed bids will be received by the City of Crestview, at the City Clerk's Office 198 N. Wilson Street, Crestview, Florida 32536; until **Thursday, September 12, 2019 at 2:00 p.m.**

Any bids received after the above time will not be accepted under any circumstances. Any uncertainty regarding the time a bid is received will be resolved against the bidder.

Bid opening will be promptly at **2:00 p.m. on September 12, 2019** at the City Hall Council Chambers, 198 N. Wilson Street, Crestview, Florida 32536, at which time all bids received will be publicly opened and read aloud.

DESCRIPTION OF WORK: All work for the Project shall be done in accordance with the Drawings and Specifications and shall be awarded and constructed, if award is made, under one Contract. Bids shall be submitted for furnishing, delivering, and installing all materials, equipment, and services, including labor for the Work described:

This project is to furnish and install a new fiberglass wet well into the existing concrete wet well. The wet well will include new submersible pumps, piping, control panel with VFD starters, and larger generator. It will involve removing the existing pipe system in the wet well, pump enclosure, above ground suction pumps, control panel, and generator. It will also require removing the existing concrete top and constructing a new concrete top. It will require bypassing all flow into the wet well during construction. All new items must meet/exceed specifications.

Bidders are urged to visit the site prior to submitting a bid. If you have any questions, **contact Kyle Lusk or Mark Bonifay of the Engineering, Public Services Department at 715 N. Ferdon Blvd., Crestview, Florida or call 850-682-6132 ext. 128 or 109.**

BIDDING DOCUMENTS can be obtained on the city website: www.cityofcrestview.org and reviewed at:

Department of Public Services
715 N. Ferdon Blvd.
Crestview, FL 32536
(850) 682-6132

The City of Crestview reserves the right to accept or reject, in part or total, any or all bids and to waive any informalities as deemed in the best interest of the City. All bids must be marked on the outside of the envelope with the bid name, the time and date of opening. It shall be the Bidder's responsibility to ensure that bids are delivered to the above address by the appointed time.

Bids shall be prepared from complete Bidding Documents.

BID SUBMITTAL: A single bid shall be submitted for the work. The contract will be awarded pursuant to the requirements of applicable state and federal laws and regulations.

Award will be made to the lowest responsible and responsive bidder. The City of Crestview will in no way be liable for any costs incurred by any bidder in the preparation of its Bid in response to this Invitation to Bid.

The City reserves the right to waive technicalities or irregularities, to reject any or all bids, and to accept that Bid which is in the best interest of the City.

The CITY OF CRESTVIEW, FLORIDA does not discriminate on the basis of race, color, national origin, sex, religion, age, and handicapped status in employment or provision of service.

CITY OF CRESTVIEW, FLORIDA
Office of the City Clerk
198 N. Wilson Street
Crestview, Florida 32536

END OF SECTION

INSTRUCTIONS TO BIDDERS

General

BIDS will be received by the City of Crestview (herein called the "OWNER") as specified in the Invitation to Bid. The BIDS will be publicly opened and read aloud at the designated time and place.

Each BID must be submitted in a sealed envelope addressed to the City of Crestview. Each sealed envelope containing a BID must be plainly marked on the outside with the name and the number of the project for which the BID is submitted; and the envelope should also show on the outside, the BIDDER's name and address.

BIDDERS must satisfy themselves as to the required quantities for the work by examination of the site and a review of the drawings and specifications including any addenda. After BIDS have been submitted the BIDDER shall not assert that there has been any misunderstanding concerning the quantities of work or of the nature of the work to be done.

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one copy of the BID form is required. The Bid form is the only document to be completed and signed at the bid opening.

A BIDDER may not modify its BID after BID opening. Errors in the extension of unit prices stated in a BID or in multiplication, division, addition, or subtraction in a BID may be corrected by the Director of Public Services prior to award. In such cases, unit prices shall not be changed.

Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID after the actual date of the opening thereof.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. A conditional or qualified BID may not be accepted.

BID tabulations will be posted for review on the city website: www.cityofcrestview.org

The OWNER may make such investigations as deemed necessary to determine the ability of the BIDDER to perform the work, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the AGREEMENT and to complete the work contemplated herein. The low BIDDER will be required to perform at least fifty percent (50%) of the contract work with his/her own employees. The BIDDER to whom the contract is being awarded shall supply the names and addresses of major material suppliers and subcontractors when required to do so by the OWNER.

A PERFORMANCE BOND and PAYMENT BOND each in the amount of 100 percent of the contract price, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract, when the AGREEMENT is executed. Attorneys-in-fact who sign PAYMENT BONDS and PERFORMANCE BONDS must file with each BOND a current certified copy of their power of attorney.

INSTRUCTIONS TO BIDDERS

Certificate of Insurance, as specified herein, shall be submitted at the time of signing the AGREEMENT.

The BIDDER to whom the contract is being awarded will be required to execute the AGREEMENT and obtain the PERFORMANCE BOND, PAYMENT BOND and Insurance on or before ten (10) calendar days following delivery of the notice of award to the BIDDER. If the BIDDER fails to properly execute the AGREEMENT or obtain the required PERFORMANCE BOND, PAYMENT BOND, or Insurance within the allotted time, the OWNER may consider the BIDDER in default.

The OWNER within ten (10) days of receipt of acceptable PERFORMANCE BOND, PAYMENT BOND, INSURANCE CERTIFICATES and the AGREEMENT signed by the CONTRACTOR to whom the contract is being awarded shall sign the AGREEMENT and return to such CONTRACTOR an executed duplicate of the AGREEMENT. Should the OWNER not execute the AGREEMENT within such period, the BIDDER may by written notice withdraw the signed AGREEMENT.

The CONTRACTOR shall thereupon record the PAYMENT and PERFORMANCE BONDS at the Okaloosa County Courthouse and return the recorded originals to the OWNER within seven (7) days.

The NOTICE TO PROCEED shall be issued within ten (10) days of the receipt of the recorded bonds by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the AGREEMENT by written notice to the OWNER.

Bid Protest Procedure

Any person whose substantial interests are directly and adversely affected by the award or intended award of a purchase order or contract or by plans or specifications contained in an invitation to bid or request for proposals may file a protest.

Notice of protest of plans, specifications or other requirements contained in an invitation to bid or in a request for proposals shall be filed not later than 5:00 P.M. of the third business day following receipt of the plans or specifications. Notice of protest of the rejection of a bid or proposal as non-responsive shall be filed not later than 5:00 P.M. of the third business day following notice to the bidder of the rejection. Notice of protest of the award or intended award of a purchase order or contract to the lowest bidder shown on a posted bid tabulation shall be filed not later than 5:00 P.M. of the third business day following the posting of the bid tabulation. Notice of protest of the award or intended award of a purchase order or contract to a bidder other than the lowest bidder shown on a posted bid tabulation shall be filed not later than 5:00 P.M. of the third business day following notice of the award of a purchase order or contract.

A notice of protest shall be in writing and shall state the subject matter of the protest.

A formal written protest shall be filed within seven (7) business days after the filing of notice of protest. A formal written protest shall state with particularity the facts and the law on which the protest is based.

Notice of protest and formal written protest of plans or specifications for or the award or intended award of a contract shall be filed with the city clerk or her designee.

Failure to file a notice of protest or failure to file a formal written protest within the times permitted shall constitute a waiver of proceedings.

END OF SECTION

PUBLIC ACCESS

Contractor shall comply with the requirements of Florida's Public Records law. In accordance with Section 119.0701, Florida Statutes hereby certifies that shall:

- a. Keep and maintain public records that would be required by the public agency to perform the service.
- b. Upon request from the public agency's custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided under Florida's Public Law or as otherwise provided by law.
- c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this contract if Contractor does not transfer the records to the public agency: and
- d. Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of Contractor or keep and maintain public records required by the public agency to perform the service. If the Contractor transfers all public records to the public agency upon completion of the contract, Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If Contractor keeps and maintains public records upon completion of this contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

e. If Contractor has questions regarding the application Chapter 119, Florida Statutes, to Contractor's duty to provide public records relating to this Agreement, Contractor shall contact the Custodian of Public Records at:

**City Clerk, City of Crestview
198 North Wilson Street
P.O. Box 1209
Crestview, Florida 32536
(850) 682-1560 Extension 250
cityclerk@cityofcrestview.org**

- f. In the event the public agency must initiate litigation against Contractor in order to enforce compliance with Chapter 119, Florida Statutes, or in the event of litigation filed against the public agency because Contractor failed to provide access to public records responsive to a public record request, the public agency shall be entitled to recover all costs, including but not limited to reasonable attorneys' fees, costs of suit, witness, fees, and expert witness fees extended as part of said litigation and any subsequent appeals.

SECTION 00300

BID FORM

SUBMITTED: _____
Date

PROJECT IDENTIFICATION: **CITY OF CRESTVIEW**
Lift Station #9 Renovation

NAME OF BIDDER: _____

BUSINESS ADDRESS: _____

Phone No.: _____ Fax No.: _____

E-Mail Address: _____

CONTRACTOR'S FLORIDA LICENSE NO.: _____

THIS BID IS SUBMITTED TO: City of Crestview, Florida (hereinafter called Owner) acting through its City Commission.

1. The undersigned Bidder offers and agrees to enter into an Agreement with Owner in the form included in the Bidding Documents, to complete all work for the Contract Price and within the Contract Time, all in accordance with the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Bidding Documents, including without limitation those dealing with the Owner's time for accepting for Bid and the disposition of Bid Bond.
3. In submitting this Bid, Bidder makes all representations required by the Instructions to Bidders and further warrants and represents that:

(a) Bidder has examined copies of all the Bidding Documents and of the following addenda:

No. _____	Dated _____;	No. _____	Dated _____
No. _____	Dated _____;	No. _____	Dated _____
No. _____	Dated _____;	No. _____	Dated _____
No. _____	Dated _____;	No. _____	Dated _____

(Receipt of all which is hereby acknowledged) and also copies of the Advertisement for Bids and the Instructions to Bidders.

(b) Bidder has examined the site and locality where the Work is to be performed and the legal requirements (Federal, State and local laws, ordinances, rules and regulations) and conditions affecting cost, degree of difficulty, progress or performance of the Work and has made such independent investigations as Bidder deems necessary.

- (c) This Bid is genuine and not made in the interest or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or a corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over Owner.
 - (d) Bidder hereby agrees if this Bid is accepted, to commence work under this contract on or before a date to be specified in the Notice to Proceed and to fully complete all work of the Project within the Contract Time stipulated in the Agreement (Section 00500). Bidder further agrees to pay as liquidated damages the amount stated in the Agreement for each consecutive calendar day completion of the work is delayed.
- 4. Bidder submits the following unit prices to perform all the Work as required by the Drawings and Specifications for the City of Crestview. Bid shall be awarded based on Total Base Bid. Estimated quantities may exceed items listed. Payment based on installed quantities.
 - 5. All Bid Items shall include all materials, equipment, labor, permit fees, taxes, tests, miscellaneous costs of all types, overhead, and profit for the item to be complete, in place, and ready for operation in the manner contemplated by the Contract Documents.
 - 6. The following documents are attached to and made a condition of this Bid:
 - (a) **Bid Security (Section 00410 and surety bond or cashier's check).**
 - (b) **Power of Attorney (for surety bond only).**
 - (c) **Public Entities Crime Form (Section 00470).**
 - (d) **Noncollusion Affidavit (Section 00480).**
 - (e) **Trench Safety Affidavit (Section 00490).**
 - (f) **Corporate authority to execute Bid (for any corporate employee other than president or vice president).**
 - (g) **Questionnaire and Subcontractor Listing (Sections 00301 and 00301-A).**
 - (h) **Evidence of Bidder's Certification and License to perform the work.**
 - (i) **Experience and financial statement demonstrating the Bidder's ability to successfully complete the work.**
 - (j) **References (Section 00302).**
 - (k) **Similar Projects (Section 00303).**
 - (l) **Drug Free Workplace (Section 00310).**
 - 7. The terms used in this Bid, which are defined in Article 1 of the General Conditions shall have the meanings assigned to them in the General Conditions as amended by the Supplementary Conditions.
 - 8. **COMPLIANCE WITH FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA)**

Bidder hereby acknowledges that all costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) are included in the various items of the proposal and in the Total Bid Price. For informational purposes only, the Bidder is required to further identify these costs, to be summarized below:

	Trench Safety Measure Description	Units of Measure (LF, SY)	Unit (Quantity)	Unit Cost	Extended Cost
A	_____	_____	_____	\$ _____	\$ _____
B	_____	_____	_____	\$ _____	\$ _____
C	_____	_____	_____	\$ _____	\$ _____
D	_____	_____	_____	\$ _____	\$ _____
				TOTAL:	\$ _____

THIS IS NOT A PAY ITEM. The purpose of this form is to disclose information on the costs associated with trench safety measures and to insure that the Bidder has considered these costs and included them in the Bid Price. Contractor will not receive additional payment if actual quantities differ from those estimated above or if the Contractor uses a safety measure different than those listed.

Failure to complete the above may result in the Bid being declared non-responsive.

BID SUMMARY

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Item Cost
1	Mobilization/Demobilization	1	LS		
2	General Requirements	1	LS		
3	Demolition, Debris Removal/Disposal	1	LS		
4	Bypass Flow	1	LS		
5	Dewatering	1	LS		
6	Fiberglass Wetwell	1	EA		
7	Piping	1	LS		
8	Pumps	2	EA		
9	Control Panel	1	EA		
10	Generator	1	EA		
11	Concrete Work	1	LS		
12	Electrical Work	1	LS		
13	Testing	1	LS		
14	Miscellaneous	1	LS		
15					
16					
17					
18					

TOTAL BASE BID

(In words)

\$

(In numbers)

NAME OF BIDDER: _____

If Bidder is: (ALL SIGNATORIES MUST HAVE THEIR NAME PRINTED OR TYPED
BELOW THEIR SIGNATURE)

SOLE PROPRIETORSHIP

_____(SEAL)
(Individual's Signature)

_____(SEAL)
(Individual's Name)

Doing Business as: _____

Business Address: _____

Phone No.: _____

Fax No.: _____

E-Mail Address: _____

Florida Licence No.: _____

A PARTNERSHIP

_____(SEAL)
(Partnership Name)

_____(SEAL)
(General Partner's Signature)

_____(SEAL)
(General Partner's Name)

Business Address: _____

Phone No.: _____

Fax No.: _____

E-Mail Address: _____

Florida License No.: _____

NAME OF BIDDER: _____

A CORPORATION

(Corporation Name)

(State of Incorporation)

By _____
(Name of Person Authorized to Sign)

(Title)

(Authorized Signature)

(Corporate Seal)

Attest _____
(Secretary)

Business Address: _____

Phone No.: _____

Fax No.: _____

E-Mail Address: _____

Corporation President:: _____

Florida License No.: _____

NAME OF BIDDER: _____

A JOINT VENTURE

By _____ (SEAL)

(Name)

(Address)

By _____ (SEAL)

(Name)

(Address)

Business Address: _____

Phone No.: _____

Fax No.: _____

E-Mail Address: _____

Florida License No.: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above).

8. List the following in connection with the Surety which is providing the Bid Bond.

Surety's Name: _____

Surety's Address: _____

Name and address of Surety's resident agent for service of process in Florida:

SCHEDULE OF MANUFACTURERS/SUPPLIERS

The Contract Documents are based upon the equipment or products available from the manufacturers/suppliers denoted as "A", "B", etc. However, the Bidder must indicate in his Bid which Base Bid manufacturer/supplier he intends to use for each item of equipment listed by circling one (1) of the listed manufacturers/suppliers. Should the Bidder fail to circle a named supplier, he hereby agrees to provide the item listed as "A". After receipt of bids, the Bidder may not substitute for any manufacturer or supplier circled.

If the Bidder desires to propose one (1) or more substitution or "or equal" manufacturers/suppliers, he may write in the name of such substitution or "or equal" in the spaces provided on the pages following the lists, but he must, nevertheless, also circle one of the listed manufacturers/suppliers. All substitutions or "or equal" items must be identified at the time of Bid (see Paragraph 6.05 of the General Conditions as amended by the Supplementary Conditions). Substitutions or "or equal" items will **not** be considered when determining the Apparent Low Bidder. Substitutions or "or equal" items will **not** be evaluated or considered until after the "Effective Date" of the Agreement. The Bidder shall base his Bid on providing one of the listed manufacturers and shall assume for bidding purposes that all substitutions or "or equal" items will not be accepted.

If the proposed substitution or "or equal" manufacturer/supplier is determined "not equivalent" by the Engineer, the Bidder must use the circled manufacturer/supplier. If the Bidder fails to indicate which listed manufacturer/supplier he intends to use or if a substitution or "or equal" is rejected, he must use the supplier listed as "A". Also, if the Bidder circles more than one listed manufacturer/supplier, he must use the first manufacturer/supplier circled (unless a substitution or "or equal" is approved).

Each proposed substitution or "or equal" will be evaluated in accordance with Paragraph 6.05 of the General Conditions following the Effective Date of the Agreement.

In addition to the reimbursement required under Paragraph 6.05 of the General Conditions, the Contractor shall also reimburse the Owner for any engineering costs directly attributable to the change in manufacturers/suppliers, caused by the acceptance of proposed substitutions or "or equal" items, such as; additional field trips for the Engineer, additional redesign costs, and additional review costs, etc. Other costs directly attributable to the change in manufacturers/suppliers caused by the acceptance of proposed substitutions or "or equal" items such as increased electrical requirements, larger buildings, modifications to structures, additional pumps, piping or tankage, etc., shall be borne by the Contractor and not by the Owner. Bidder further agrees that the use of substitute equipment offered will not affect the completion date.

The Owner may request, and the Bidder shall supply any additional information on proposed substitutes or "or equal" items prior to Notice of Award.

SCHEDULE OF BASE BID MANUFACTURERS/SUPPLIERS

Item No.	Equipment Item or Material	Specification Section No.	Base Bid Manufacturer/Supplier
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

SUBSTITUTIONS AND "OR EQUAL"

The undersigned as Bidder agrees that substitutions, or "or equal" items will not be considered until after the "Effective Date of the Agreement" and will be evaluated in accordance with Paragraph 6.05, of the General Conditions as amended by the Supplementary Conditions. If Bidder intends to propose substitutions or "or equal" items after the "Effective Date of the Agreement", it is agreed that these items will be listed on the Substitution List that must be included with the Bid (form provided herein). Only the proposed substitutions or "or equal" items listed on the Substitution List and submitted at the time of Bid will be evaluated by the Engineer in accordance with the General Conditions.

SUBSTITUTION LIST OF
MANUFACTURERS/SUPPLIERS

Bidder proposes the following substitutions and "or equal" items of alternate manufacturers/suppliers for the equipment of material categories so identified:

	<u>Equipment Item Material</u>	<u>Drawing No.</u>	<u>Spec. Section</u>	<u>Substitute/"or equal" Manufacturer/Supplier (List One Only)</u>	<u>Proposed Price Deduct</u>
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____
10.	_____	_____	_____	_____	_____

END OF SECTION

SECTION 00301
QUESTIONNAIRE

DATE: _____

PROJECT IDENTIFICATION: **CITY OF CRESTVIEW, FLORIDA**
 Lift Station #9 Renovation

NAME OF BIDDER: _____

BUSINESS ADDRESS: _____
 _____ Phone No. _____

CONTRACTOR'S FLORIDA LICENSE NO. _____

The undersigned warrants the truth and accuracy of all statements and answers herein contained. Include additional sheets if necessary.

1. How many years has your organization been in business as a Florida Licensed Contractor?

2. Describe and give the date and owner of the last project that you have completed similar in type, size, and nature as the one proposed?

Refer to Section 00303 (Similar Projects) _____

3. Have you ever failed to complete work awarded to you? If so, where and why?

4. Name three (3) municipalities for which you have performed work and to which you refer:

Refer to Section 00302 (References)

5. Have you personally inspected the sites of the proposed work? Describe any anticipated problems with the site and your proposed solutions?

6. Will you subcontract any part of this work? If so, describe which portions:

7. What equipment do you own that is available for the work?

8. What equipment will you purchase for the work?

9. What equipment will you rent for the work?

END OF SECTION

SECTION 00301-A
SUBCONTRACTOR LISTING

List all proposed subcontractors to be used for this project regardless of racial or gender grouping.

****THE BIDDER SHALL SELF-PERFORM AT LEAST 50% OF THE PROJECT****

<u>Firm Name, Address and Telephone Number</u>	<u>Trade</u>	<u>Estimated Dollar Amount</u>
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____

Use additional sheets if necessary.

END OF SECTION

SECTION 00302

REFERENCES

Project Name: City of Crestview, Lift Station #9 Renovation

<u>OWNER</u>	<u>CONTACT PERSON</u>	<u>TELEPHONE NUMBER</u>
--------------	-----------------------	-------------------------

SECTION 00303

SIMILAR PROJECTS

Project Name: City of Crestview, Lift Station #9 Renovation

List at least five (5) similar projects completed in the last three years that indicate the experience and qualifications of the Bidder (relative to this project). Information should include Owner's name with contact person; description of work including Bidder's responsibilities; original contract price; final contract price; original contract time; actual time to complete the project; and any relevant circumstances or conditions about the project.

PROJECT NAME: _____

OWNER'S NAME: _____

CONTACT: _____ PHONE: _____

PROJECT DESCRIPTION: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

NUMBER AND DOLLAR AMOUNT OF CHANGE ORDERS: _____

ORIGINAL CONTRACT TIME (Substantial Completion): _____

ACTUAL TIME TO COMPLETE (Substantial Completion): _____

OTHER RELEVANT INFORMATION: _____

PROJECT NAME: _____

OWNER'S NAME: _____

CONTACT: _____ PHONE: _____

PROJECT DESCRIPTION: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

NUMBER AND DOLLAR AMOUNT OF CHANGE ORDERS: _____

ORIGINAL CONTRACT TIME (Substantial Completion): _____

ACTUAL TIME TO COMPLETE (Substantial Completion): _____

OTHER RELEVANT INFORMATION: _____

PROJECT NAME: _____

OWNER'S NAME: _____

CONTACT: _____ PHONE: _____

PROJECT DESCRIPTION: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

NUMBER AND DOLLAR AMOUNT OF CHANGE ORDERS: _____

ORIGINAL CONTRACT TIME (Substantial Completion): _____

ACTUAL TIME TO COMPLETE (Substantial Completion): _____

OTHER RELEVANT INFORMATION: _____

PROJECT NAME: _____

OWNER'S NAME: _____

CONTACT: _____ PHONE: _____

PROJECT DESCRIPTION: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

NUMBER AND DOLLAR AMOUNT OF CHANGE ORDERS: _____

ORIGINAL CONTRACT TIME (Substantial Completion): _____

ACTUAL TIME TO COMPLETE (Substantial Completion): _____

OTHER RELEVANT INFORMATION: _____

PROJECT NAME: _____

OWNER'S NAME: _____

CONTACT: _____ PHONE: _____

PROJECT DESCRIPTION: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

NUMBER AND DOLLAR AMOUNT OF CHANGE ORDERS: _____

ORIGINAL CONTRACT TIME (Substantial Completion): _____

ACTUAL TIME TO COMPLETE (Substantial Completion): _____

OTHER RELEVANT INFORMATION: _____

PROJECT NAME: _____

OWNER'S NAME: _____

CONTACT: _____ PHONE: _____

PROJECT DESCRIPTION: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

NUMBER AND DOLLAR AMOUNT OF CHANGE ORDERS: _____

ORIGINAL CONTRACT TIME (Substantial Completion): _____

ACTUAL TIME TO COMPLETE (Substantial Completion): _____

OTHER RELEVANT INFORMATION: _____

Section 00310

DRUG-FREE WORK PLACE

The undersigned vendor, in accordance with Florida Statute 287.087, hereby certifies that

_____ does:
(Name of Business)

1. Publish a statement notifying employee that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are proposed a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

X

Proposer's Signature

Date

(THIS FORM MUST BE COMPLETED IF APPLICABLE AND RETURNED WITH YOUR PROPOSAL)

SECTION 00410

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the City of Crestview, Florida as Owner in the penal sum of, (five percent (5%) of the Contract Bid) _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns to pay Owner upon default of Bidder the penal sum set forth on the face of this Bond.
Signed, this ____ day of _____, 20__.

The condition of the above obligation is such that whereas the Principal has submitted to City of Crestview, Florida, a certain Bid, attached hereto and hereby made a part hereof, to enter into a contract in writing, for the Well No. 9 and Elevated Storage Tank improvements.

NOW THEREFORE,

1. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents.
2. This obligation shall be null and void if:
 - 2.1 Owner accepts Bidder's bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents and Contract Documents, or
 - 2.2 All bids are rejected by Owner, or
 - 2.3 Owner fails to issue a notice of award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).
3. Payment under this Bond will be due and payable upon default of Bidder and within thirty (30) calendar days after receipt of Bidder and Surety of written notice of default from Owner which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

4. Surety waives notice of any and all defenses based on or arising out of any time extension to issue notice of award agreed to in writing by Owner and Bidder, provided that the time for issuing notice of award including extensions shall not in the aggregate exceed ninety (90) days from Bid Due without Surety's written consent.
5. No suit or action shall be commenced under this Bond prior to thirty (30) calendar days after the notice of default required in paragraph 3 above is received by Bidder and Surety, and in no case later than one year after Bid Due Date.
6. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
7. Notice required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the part concerned.
8. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.
9. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of the Bond conflicts with any applicable provision of any applicable statute, then the provision of said statute shall govern and the remainder of the Bond that is not in conflict therewith shall continue in full force and effect.
10. The term "bid" as used herein includes a bid, offer or proposal as applicable.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal (Print Full Name):

Surety (Print Full Name):

_____(Seal)
Surety's Name and Corporate Seal

By: _____(L.S.)

By: _____
Signature (attach power of attorney)

Title: _____

Title: _____

Attest: _____
Signature and Title

Attest: _____
Signature and Title

IMPORTANT - Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Florida. See Article 5 of the General Conditions as amended by Supplementary Conditions.

END OF SECTION

SECTION 00470

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to _____
(print name of the public entity)
- by _____
(print individual's name and title)
- for _____
(print name of entity submitting sworn statement)

whose business address is

and (if applicable) its Federal Employer Identification Number (FEIN) is _____

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____.)

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), **Florida Statutes** means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), **Florida Statutes**, means:

1. A predecessor or successor of a person convicted of a public entity crime; or
 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term “affiliate” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
5. I understand that a “person” as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term “person” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (indicate which statement applies.)

_____ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the final order.)

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS

FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, **FLORIDA STATUTES** FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(signature)

Sworn to and subscribed before me this _____ day of _____, 20__.

Personally known _____

OR Produced identification _____

(type of identification)

Notary Public - State of Florida

My commission expires _____

(printed, typed or stamped commissioned name of notary public.)

END OF SECTION

SECTION 00480
NONCOLLUSION AFFIDAVIT

STATE OF _____

COUNTY OF _____

_____, being first duly sworn deposes and says that:

1. He (it) is the _____, of _____, the Bidder that has submitted the attached Bid;
2. He 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 affidavit, have in any way, colluded, conspired, connived or agreed, directly or indirectly, with any other 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 have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit, or cost elements 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 (Recipient), or any person interested in the proposed Contract;
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 other of its agents, representatives, owners, employees or parties in interest, including this affidavit.

By _____

Sworn and subscribed to before me this ____ day of _____, 20____, in the
State of _____, County of _____.

_____ Notary Public

My Commission Expires: _____

END OF SECTION

SECTION 00490

TRENCH SAFETY COMPLIANCE

Trench excavations on this Project are expected to be in excess of 5 feet deep. The Occupational Safety and Health Administration excavation safety standards, 29 CFR 1926.650 Subpart P trench safety standards, will be in effect during the period of construction of the Project.

Bidder acknowledges that included in the Bid Price are costs for complying with the Florida Trench Safety Act (90-096, Laws of Florida) effective October 1, 1990, and hereby gives assurance that, if awarded the Contract, the Contractor or Subcontractor performing trench excavation work on the Project will comply with the applicable trench safety standards. The Bidder further identifies the costs as follows:

Trench Safety Item (Description) and Estimated Cost

(Cost in Words)

TOTAL \$ _____

FAILURE TO COMPLETE THE ABOVE MAY RESULT IN THE BID BEING DECLARED NON-RESPONSIVE.

Company Name: _____

Date: _____

By: _____

SECTION 00500

AGREEMENT

THIS AGREEMENT made and entered into this _____ day of _____ 2019, by and between the CITY OF CRESTVIEW, FLORIDA, a municipality organized and existing under the laws of the State of Florida, hereinafter called the OWNER, and _____ hereinafter called CONTRACTOR;

WITNESSETH:

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I - SCOPE OF WORK

CONTRACTOR shall complete all work as specified or indicated in the Contract Documents. The Work is generally described as follows:

LIFT STATION #9 RENOVATION

BID # 19-0912

All work for the Project shall be constructed in accordance with the Drawings and Specifications prepared by Tetra Tech and the proposed improvements will be awarded and constructed, if award is made, under one Contract. Bids shall be submitted for furnishing, delivering, and installing all materials, equipment and services, including labor, for the Work described.

This project is to furnish and install a new fiberglass wet well into the existing concrete wet well. The wet well will include new submersible pumps, piping, control panel with VFD starters, and larger generator. It will involve removing the existing pipe system in the wet well, pump enclosure, above ground suction pumps, control panel, and generator. It will also require removing the existing concrete top and constructing a new concrete top. It will require bypassing all flow into the wet well during construction. All new items must meet/exceed specifications.

ARTICLE II - ENGINEER

The Engineer, Marc D. Bonifay, P.E. (City Engineer), whose address is 715 North Ferdon Blvd., Crestview, Florida 32536, hereinafter referred to as ENGINEER and who will assume all duties and responsibilities and will have the rights and authority assigned to the Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE III - CONTRACT TIME

3.1 The Work will be substantially completed within **45** days after the date when the Contract Time commences to run as provided in Paragraph 2.03 of the General Conditions, and

completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 60 days after the date when the Contract Time commences to run.

3.2 Damages for Delay. OWNER and CONTRACTOR recognize that **TIME IS OF THE ESSENCE** in this Agreement and that the OWNER will suffer financial loss if the Work is not completed within the time specified in Paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions.

3.2.1 Uniqueness of the Work. The OWNER and the CONTRACTOR expressly acknowledge the unique characteristics of the Work, which cause time to be of the essence in this contract.

3.2.2 Liquidated Damages. OWNER and CONTRACTOR recognize that **TIME IS OF THE ESSENCE** in this Agreement and that Owner will suffer financial loss if the work is not substantially complete in the time specified in Paragraph 3.1 above. The parties also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by the OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER \$1,000.00 (One Thousand Dollars) for each day that expires after the time specified in Paragraph 3.1 for Substantial Completion until the Work is substantially complete, and that the liquidated damages set forth herein bear a reasonable relationship to the estimated actual damages that the OWNER would suffer.

ARTICLE IV - CONTRACT PRICE

4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Documents in current funds at the lump sum or unit prices as presented in the Bid Form, which is incorporated herein and made a part hereof by this reference.

4.2 OWNER shall pay CONTRACTOR for completion of the work in accordance with the Contract Documents an amount in correct funds equal to the amount below:

Bid Total: _____
(use words)

Bid Total: \$ _____
(use figures)

4.3 The parties expressly agree that the Contract Price is a stipulated sum, except with regard to those items in the Bid which are subject to unit prices.

ARTICLE V - PAYMENT PROCEDURES

5.1 CONTRACTOR shall submit Applications for Payment in accordance with the Contract Documents. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.2 OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S monthly Applications for Payment, as approved by the ENGINEER, which shall be submitted by the CONTRACTOR on or before the 10th day after the end of each calendar month for which payment is requested.

5.3 Progress payments prior to Substantial Completion will be made in the following manner:

5.3.1 Prior to Substantial Completion and prior to fifty percent (50%) of the Work being completed, progress payments shall be ninety percent (90%) of the value of Work complete and ninety percent (90%) of the value of materials and equipment not incorporated into the Work, but delivered and suitably stored, less in each case the aggregate of payments previously made.

5.3.2 After fifty percent (50%) of the Work has been completed as determined by the ENGINEER, and if the character and progress has been satisfactory to the OWNER and ENGINEER, OWNER, on the recommendation of ENGINEER, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no retainage on account of subsequent Work and materials and equipment not incorporated into the Work, but delivered and suitably stored, which results in the Owner withholding a retainage equal to five percent (5%) of the Contract Price until Substantial Completion. However, OWNER shall reserve the right to reinstate withholding a retainage of ten percent (10%) if OWNER, on the recommendation of ENGINEER, determines that the progress or character of the Work is not satisfactory.

5.3.3 Upon Substantial Completion of the Work, OWNER shall pay an amount sufficient to increase total payments to the CONTRACTOR to ninety-five percent (95%) of the Contract Price, less such amounts as ENGINEER shall determine in accordance with Article 14 of the General Conditions.”

5.4 Final Payment. Upon final completion of the Work in accordance with the Contract Documents, OWNER shall pay CONTRACTOR an amount sufficient to increase total payments to ninety-eight percent (98%) of the Contract Price. However, not less than two percent (2%) of the Contract Price shall be retained until Record Drawings, specifications, addenda, modifications and shop drawings, including all manufacturers instructional and parts manuals are delivered to and accepted by the ENGINEER.

ARTICLE VI - CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

6.1 CONTRACTOR has visited the work site and familiarized himself with the nature and extent of the Contract Documents, Work, locality, and all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

6.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by the ENGINEER in the preparation of the Drawings and Specifications, and which have been identified in the General and Supplementary Conditions of the Contract Documents.

6.3 CONTRACTOR has made or caused to be made examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraph 6.2 above as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by CONTRACTOR for such purposes.

6.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

6.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to the CONTRACTOR.

ARTICLE VII - CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Agreement between the OWNER and CONTRACTOR are attached to this Agreement, are made a part hereof and consist of the following:

- 7.1 This Agreement (Section 00500) (pages __ to __, inclusive).
- 7.2 Exhibits to this Agreement (sheets __ to __, inclusive). N/A
- 7.3 Performance Bond, Payment Bond and Certificates of Insurance.
- 7.4 Notice of Award and Notice to Proceed.
- 7.5 General Conditions (Section 00700) as amended by the Supplementary Conditions.
- 7.6 Supplementary Conditions (Section 00800).
- 7.7 Florida Department of Environmental Protection Bureau of Water Facilities Funding Supplementary Conditions for Formally Advertised Construction Procurement.
- 7.8 Project Manual bearing the general title: "CITY OF CRESTVIEW, LIFT STATION NO. 9" and consisting of Divisions 0 through 16 as listed in the table of contents.
- 7.9 Drawings bearing the following general title: "CITY OF CRESTVIEW, LIFT STATION NO. 9" and consisting of the sheets as listed in the Drawings Index.
- 7.10 Addenda Numbers __ through __, inclusive.
- 7.11 Bid Form (Section 00300) (Pages 1 to 11, inclusive).
- 7.12 All applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement.
- 7.13 Advertisement for Bids, Instructions to Bidders, Bid Bond, Noncollusion Affidavit, General Requirements, Field Orders and State of Florida Contract Provisions.

There are no Contract Documents other than those listed above in this Article VII. The Contract Documents may only be altered, amended, or repealed in accordance with Article 3 of the General Conditions as modified in the Supplementary Conditions.

ARTICLE VIII - MISCELLANEOUS

8.1 No assignment by the parties hereto of any rights under, or interest in, the Contract Documents will be binding on another party hereto without the written consent of the

party sought to be bound; and specifically, but without limitation, monies that may become due and monies that are 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 of an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.2 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns or legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

8.3 Terms used in this Agreement, which are defined in Article 1 of the General Conditions, shall have the meanings indicated in the General Conditions, as modified in the Supplementary Conditions.

ARTICLE IX - GOVERNING LAW

This Agreement shall be governed by the laws of the State of Florida. Both parties agree that the courts of the State of Florida shall have jurisdiction of any claim arising in connection with this Agreement. In the event of litigation arising out of this Agreement, the prevailing party shall be entitled to the award of attorney's fees and costs at both the trial and appellate level. Venue for any litigation arising out of this agreement shall be in Orange County, Florida.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One (1) counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on _____, 2019.

OWNER: CITY OF CRESTVIEW, FLORIDA

By: _____

ATTEST: _____

CITY CLERK

APPROVED AS TO FORM AND CORRECTNESS: _____

CITY ATTORNEY

CONTRACTOR:

By: _____

Title: _____

(CORPORATE SEAL)

ATTEST: _____

SECRETARY

END OF SECTION

Performance Bond

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

CONTRACTOR (Name and Address):

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

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.

2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:

3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and

3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and

3.3. The OWNER has agreed to pay the Balance of the Contract Price to:

3.3.1. The Surety in accordance with the terms of the Contract;

3.3.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or

4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or

4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;

4.4.1 After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or

4.4.2 Deny liability in whole or in part and notify the OWNER citing reasons therefor.

5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied

liability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:

6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;

6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.

7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.

8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1 Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.

12.2 Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

12.3 CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4 OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY--Name, Address and Telephone)
AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):

Payment Bond

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

CONTRACTOR (Name and Address):

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

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.

3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with the CONTRACTOR:

1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the

CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

15.3. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENCY or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):

SECTION 00650

CERTIFICATE OF INSURANCE

A. INSURANCE REQUIREMENTS

1. Contractor shall purchase and maintain such comprehensive general liability and other insurance as required by this document. Should any of the required insurance policies be canceled before the expiration date thereof, the insuring company shall provide written notice to each insured 30 days prior to cancellation.

B. CERTIFICATE OF INSURANCE FORM

1. The Certificate of Insurance submitted to the Owner and Engineer shall be on the Insurance Company's form with a format similar to the popular ACORD Corporation form.
2. The Owner's project name and project number shall be shown on the Certificate.
3. Three (3) Certificates shall be submitted along with the executed Contract Agreement.

A. Minimum Scope of Insurance:

Coverage shall be at least as broad as:

1. Insurance Services Office Form No. CG 0001 (11/85) or CG 0002 (2/86) Commercial General Liability; and Insurance Services Office Form No. GL 0404 (5181) Broad Form Comprehensive General Liability; endorsement, and
2. Insurance Services Office form No. CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 "any auto", and CA 0002 (1/87), and
3. Workers' Compensation as required by the State of Florida and Employers' Liability insurance:

B. Minimum Limits of Insurance:

Contractor shall maintain coverage's and limits as follows:

1. General Liability:

Aggregate Limit: \$1,000,000.

Products and completed operation aggregate limit: \$500,000.

Personal and advertising injury limit: N/A.

Each occurrence limit: \$500,000.

Fire damage limit: \$50,000 any one fire.

Medical expense limit: \$5,000 per person.
Blanket: no.

(1) Designated contractors (specify): City of Crestview

2. Automobile Liability:

- (a) Business auto with symbol(s): one (1)
- (b) Limit per accident: \$1,000,000.

3. Workers' Compensation as required by Florida laws, and Employer's Liability with the following minimum limits:

- (a) Each accident: \$100,000.
- (b) Per employee disease: \$100,000.
- (c) All claims disease: \$500,000.

C. Deductibles and Self-Insured Retentions:

Any deductible or self-insured retention must be declared to and approved by the City. At the option of the City, either the insurer shall reduce or eliminate such deductibles or self insured retentions as respects the City, its officials and employees, or the contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.

D. Acceptability of Insurers: Insurance should be placed with insurers having a Bests' rating of A-Excellent and Xiii Financial Size.

E. Verification of Coverage: Successful Contractor shall furnish the City with certificates of insurance and with original endorsements affecting coverage's required by this appendix. The certificates and endorsement for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificate and endorsement are to be on forms provided or approved by the City and are to be received and approved in final form by the City before work commences.

F. Subcontractors: Contractor shall include all subcontractors as insured's under its policies or shall furnish separate certivicates and endorsements for each subcontractor. All coverage's for subcontractors shall be subject to all of the requirements stated herein.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by

ACEC

AMERICAN COUNCIL OF ENGINEERING COMPANIES



ASCE American Society
of Civil Engineers

PE National Society of
Professional Engineers
Professional Engineers in Private Practice

AMERICAN COUNCIL OF ENGINEERING COMPANIES

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NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. 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 which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer 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, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given 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 under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *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.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *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 for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *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 at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, 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 Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *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, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. 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 Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. 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 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean 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, shall mean 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, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. 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 Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement 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 Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), 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 Documents;
 - 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.

2.06 *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 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, 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 instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial 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 for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. 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 component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one 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. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement 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, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, 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) any standard, specification, manual, or code, or (c) 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 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
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 Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); 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 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
1. 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 editions; or
 2. 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.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor 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. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- 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 the Work is to be performed 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.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "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; or
 - 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.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
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 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition 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 meet any one or more of the categories described in Paragraph 4.03.A; and
 - 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 Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final 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
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and

contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

- c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, 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 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the

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

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *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.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "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; or
 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 any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) 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 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. 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, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. 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. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. 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 or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. 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 a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds 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 shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also

meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed 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:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
 5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
 6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors,

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their 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 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 Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (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. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. 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:

1. loss 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 perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, 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. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's

interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *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. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *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 at all times maintain good discipline and order at the Site.
- B. 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 shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *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.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall 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 shall 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.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 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 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description 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 or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. "*Or-Equal*" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it 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; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) 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

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. 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 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.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be

required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner,

Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (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 any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *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 a particular 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 shall be disclosed by Owner 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.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. 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 opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *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. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear 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. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *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.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. 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 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 by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall 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 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 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 property to stresses or pressures that will endanger it.

6.12 *Record Documents*

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

6.13 *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. 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, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. 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. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. 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.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.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 (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).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of 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.

6.16 *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 threatened 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 thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is

required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will 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 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. 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 6.17.D.

B. 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. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. 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, conform to the information given in 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 (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.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's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

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.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *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 and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper 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.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 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 or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. 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 performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury 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 6.20.A shall 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.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner’s employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner’s employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. 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. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor’s Work depends upon work performed by others under this Article 7, 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.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *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.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *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 Documents.

8.12 *Compliance with Safety Program*

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 pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *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 Documents.

9.02 *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 9.09. 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.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which 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. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. 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, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents 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 shall 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 Paragraph 14.07.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 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *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 by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *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 as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the 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; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *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.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data

shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall 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. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall 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 shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall 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, who 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 shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including 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, and hand tools not owned by the workers, 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.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of

said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the 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 property insurance established in accordance with Paragraph 5.06.D), 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 shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall 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 telegrams, long distance telephone calls, telephone 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 Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, 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 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. 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.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 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:*
 1. Contractor agrees that:
 - a. 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
 - b. 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 on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 1. Contractor agrees that a 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 on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 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. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- 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. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for 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, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall 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 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five 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 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or

neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, 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 the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will 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 therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- 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 and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. 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.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, 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, furnishing all necessary labor, material, and equipment.

- C. If it is found that the uncovered Work is defective, Contractor shall pay 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 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 Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. 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, or both, 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, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *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, 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 shall 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.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay 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 correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *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 terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
 2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If 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. 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 correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. 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.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, 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.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay 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) 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 pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *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 rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, 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, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, 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 (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) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. 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 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *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. 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 shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, 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 9.07, 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 Documents; 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, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, 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 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. 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;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action 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, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *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 (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- 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 tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before

final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. 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 tentative list.

14.05 *Partial Utilization*

- 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. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and 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 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and 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 14.04 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 5.10 regarding property insurance.

14.06 *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 is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *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, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) 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.

B. *Engineer's Review of Application and Acceptance:*

1. 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 Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. 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. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *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 notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will 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 established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. 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
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.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 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) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed 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.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. 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. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven 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;
 - 3. 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) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days

to pay Contractor any sum finally determined to be due, then Contractor may, upon seven 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 15.03.

- 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, seven 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 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 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 16 – DISPUTE RESOLUTION

16.01 Methods and Procedures

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents 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.

17.03 *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 Documents. 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.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

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

SECTION 00800

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (ACEC/NSPE/ASCE) Document No. C-700, 2007 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect. Where conflicts exist between these Supplementary Conditions and the FDEP Supplementary Conditions, the FDEP Supplementary Conditions shall govern.

SC-1.01 The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (No. C-700, 2007 Edition) have the meanings assigned to them in the Standard General Conditions.

SC-1.01.12 Delete the definition of "Contract Documents" in Article 1 of the General Conditions. "Contract Documents" are the documents enumerated in Article 8 of the Agreement.

SC-1.01.44 Delete the definition of Substantial Completion and insert the following in its place:

Substantial Completion - The Work (or a specified part thereof) has progressed to the point where, in the opinion of the ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents and that all conditions precedent to Substantial Completion have been met in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

Add the following definitions:

SC-1.01.52 Compensable Delay - Any delay beyond the control and without the fault or negligence of the CONTRACTOR resulting from OWNER-caused changes in the Work, differing site conditions, suspensions of the Work, or termination for convenience by the OWNER.

SC-1.01.53 Correction Period - The time during which the CONTRACTOR must correct defective Work or remove defective Work from the site and replace it with non-defective Work, all at no cost to the OWNER, pursuant to paragraph 13.07 of the General Conditions, as supplemented.

- SC-1.01.54 Final Completion - The date upon which the final payment is due to be paid by OWNER to CONTRACTOR.
- SC-1.01.55 Excusable Delay - Any delay beyond the control and without the fault or negligence of the CONTRACTOR, the OWNER, or any other contractor caused by events or circumstances such as, but not limited to, acts of God or of the public enemy, acts of interveners, acts of the government, fires, floods, epidemics, quarantine restrictions, freight embargoes, and hurricanes, tornadoes, or new sink holes. Labor disputes and above average rainfall shall give rise only to Inexcusable Delays.
- SC-1.01.56 Float or Slack Time - The time available in the progress schedule during which an unexpected activity can be completed without delaying the Substantial Completion of the Work.
- SC-1.01.57 Inexcusable Delay - Any delay caused either (i) by events or circumstances within the control of the CONTRACTOR, such as inadequate crewing, slow submittals, etc., which might have been avoided by the exercise of care, prudence, foresight, or diligence on the part of the CONTRACTOR, (ii) by weather conditions (other than hurricanes and tornadoes) or (iii) labor disputes.
- SC-1.01.58 Nonprejudicial Delay - Any delay impacting a portion of the Work within the available total Float or Slack Time, as that term is used in Section 01310: Progress Schedules and not necessarily preventing completion of the Work within the Contract Time.
- SC-1.01.59 Prejudicial Delay - Any Excusable or Compensable Delay impacting the Work and exceeding the total Float Time available in the progress schedule, thus preventing completion of the Work within the Contract Time unless the Work is accelerated.
- SC-1.01.60 Preoperational Testing (Check-Out-Testing) - All field inspections, installation checks, water tests, performance tests, and necessary corrections required of the CONTRACTOR as a condition or conditions to achieving Substantial Completion to demonstrate to the OWNER and ENGINEER that individual components of the Work have been properly constructed and operate in accordance with the Contract Documents for their intended purposes.
- SC-1.01.61 Start-Up Testing (Demonstration Testing) - A predefined trial period required as a condition to Substantial Completion during which CONTRACTOR is to operate the entire Work (or any part thereof agreed to by the OWNER) under actual and simulated operating conditions for the purpose (i) of making such minor adjustments and changes to the Work as may be necessary for the Work

to comply with the Contract Documents and (ii) of complying with the final test requirements in the Contract Documents.

SC-2.02 Delete paragraph 2.02 of the General Conditions in its entirety and insert the following in its place:

2.2.1 After the Agreement has been executed, the CONTRACTOR will be furnished one (1) complete set of reproducible Drawings (24 x 36) and one (1) reproducible copy of the Project Manual (Contract Requirements and Specifications) and all addenda.

2.2.2 The CONTRACTOR shall furnish each of the Subcontractors, Suppliers, Permitting Agencies, and others such copies of the Contract Documents as may be required for their Work. All copies of the Contract Documents shall be printed from the reproducible.

SC-2.03 Delete paragraph 2.03 of the General Conditions in its entirety and insert the following in its place.

2.03 The Contract Time will commence to run on the day indicated in the Notice to Proceed. The Notice to Proceed may be given at any time after the Effective Date of the Agreement. In no event will the Contract Time commence to run later than the sixtieth (60th) day after the Effective Date of the Agreement.

SC-2.05 Add the following immediately after subparagraph 2.05.3 of the General Conditions:

2.05.4 The submittals required in subparagraphs 2.05.1, 2.05.2 and 2.05.3 shall be as specified in Section 01310, 01340, and 01370, respectively.

SC-2.07 Delete paragraph 2.07A.2 of the General Conditions in its entirety and insert the following in its place:

2.07.A.2 CONTRACTOR'S schedule of shop drawings and sample submittals will be acceptable to ENGINEER only if it provides a minimum of thirty (30) days for reviewing and processing the submittals. Shop Drawings requiring resubmission and review shall not rise to an excusable or compensable delay.

SC-3.03 Add the following immediately after paragraph 3.03 A of the General Conditions:

3.03 B Measurements

1. When measurements are affected by conditions already established or where items have to be fitted into construction conditions, it shall be the CONTRACTOR's responsibility to verify all such dimensions at the site and the actual job dimensions shall take precedence over scale and figure dimensions on the Drawings.

2. The CONTRACTOR shall carefully study and compare all Drawings, Specifications and other instructions; shall test all figures on the Drawings before laying out the Work; shall notify the ENGINEER of all errors, inconsistencies, or omissions which he may discover; and obtain specific instructions before proceeding with the Work. The CONTRACTOR shall not take advantage of any apparent error or omissions which may be found in the Contract Documents, and the ENGINEER shall be entitled to make such corrections therein and interpretations thereof as may be deemed necessary for the fulfillment of their intent. The CONTRACTOR shall be responsible for all errors in construction which could have been avoided by such examination and notification and shall correct, at CONTRACTORS own expense, all Work improperly constructed through failure to notify the ENGINEER and request specific instructions.

3.03 B Amend paragraph 3.03 B to read 3.03 C.

SC-3.06 Add the following immediately after paragraph 3.06.C:

3.06.D The CONTRACTOR shall submit hard copies of all information required by Sections 01027, 01340 and 01730 and all forms that require the CONTRACTOR signature. Other CONTRACTOR submittals may be electronic data if approved by the ENGINEER.

SC-4.03.A.4 In the last paragraph of 4.03.A after "then CONTRACTOR shall" amend "promptly" to read "within three (3) days".

SC-4.04.B.1 In the first sentence of 4.04.B.1 amend "promptly" to read "within three (3) days".

SC-4.06.E Add the following immediately after paragraph 4.06.E of the General Conditions:

The provisions of paragraphs 4.06.A, 4.06.B, 4.06.C, 4.06.D and 4.06.E shall not apply where the Work is performed upon public lands, rights-of-way, easements or other properties of which the OWNER does not own. In such case, Contractor's sole remedy shall be an extension of contract time.

SC-4.07 Add a new paragraph immediately after paragraph 4.06 of the General Conditions which is to read as follows:

4.07 No claim of the CONTRACTOR under paragraphs 4.03, 4.04 and 4.06 shall be allowed unless, (1) the CONTRACTOR has given the notice required in the respective sub-paragraph above, and (2) within thirty (30) days (but before final payment) after the CONTRACTOR has given written notice, the CONTRACTOR submits to the OWNER a detailed claim setting forth the CONTRACTOR's right to an increase in the Contract Price or extension of the Contract Time as provided in Articles 11 and 12 of the General Conditions.

SC-5.01 Add the following immediately after paragraph 5.01 C of the General Conditions:

D. The Surety shall be rated as "A" or better as to General Policyholders Rating and Class X or better as to Financial Category by Best's Key Rating Guide, published by Alfred M. Best Company, Inc., of 75 Fulton Street, New York, New York, 10038.

E. All Surety Companies are subject to approval and may be rejected by the OWNER without cause.

F. The bonding limit of the Surety shall not exceed ten percent (10%) of the policyholder surplus (capital and surplus) as listed by the aforementioned Best's Key Rating Guide, on any one risk (penalty or amount of any one bond).

G. The Agent countersigning the bond shall be resident in the County where the Project is located and/or other counties that are acceptable to the OWNER.

SC-5.04.A The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or where required by Law and Regulations.

Worker's Compensation, Employer's Liability etc., (under paragraphs 5.04.A.1 and 5.04.A.2 of the General Conditions):

- (1) State: Coverage A: Statutory
- (2) Applicable Federal: Statutory
- (3) Employer's Liability:
 - Each Accident \$ 500,000
 - Each Employee \$ 500,000
 - Disease \$ 100,000

5.04.A.3 thru 5.04.A.6 of the General Conditions which shall also include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

- (1) Commercial General Liability (Bodily Injury and Property Damage single limit each occurrence): \$ 1,000,000
- (2) Umbrella Liability \$ 2,000,000
- (3) Business Automobile Liability:
 - Combined Single Limit - (Bodily Injury and Property Damage)
 - \$ 1,000,000 Each Occurrence

SC-5.04.B.1 Additional Insureds:

Owner:
City of Crestview

Engineer:
(To Be Named At A Later Date)

Crestview, FL _____

The Contractual Liability coverage required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts:

- (1) Each Aggregate \$ 1,000,000
- (2) Each Occurrence (Bodily Injury and Property Damage) \$ 1,000,000

SC-5.06.A Revise paragraph 5.06.A. of the General Conditions as follows: Replace the word “Owner” with the word “CONTRACTOR” such that CONTRACTOR is required to purchase property insurance.

5.06.A.1 Name Additional Property Insureds (as previously listed).

5.06.A.2 Include coverage for hurricanes, floods, wind, and sinkholes.

5.06.A.7 Delete paragraph 5.06.A.7 in its entirety and replace with the following:

Be maintained in effect until Final Completion, unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with thirty (30) days written notice to each other additional insured to whom a certificate of insurance has been issued.

The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this paragraph 5.06 shall comply with the requirements of GC-5.08.

SC-5.06.B Delete paragraph 5.06.B in its entirety.

SC-5.10 Delete paragraph 5.10 of the General Conditions in its entirety and insert the following in its place:

5.10 The CONTRACTOR shall maintain all insurance as required in Paragraph 5.06 for the Work and allow OWNER to occupy or use a portion or portions of the Work prior to Substantial Completion. CONTRACTOR shall make appropriate provisions with insurers providing the proper endorsements, if required. The property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

SC-6.01.B Add to the end of 6.01.B "Resident superintendent shall be fluent in English."

SC-6.02 Add the following sub-paragraphs immediately after paragraph 6.02.B of the General Conditions which are to read as follow:

6.02.B.1 Maintenance work may be performed during hours other than regular working hours. Regular working hours are defined as daylight hours between one-half hour after sunrise to one-half hour before sunset but not more than eight (8) hours per day forty (40) hours per week during weekdays. Requests to Work during other than regular working hours must be submitted to

the OWNER at least seventy-two (72) hours in advance of the period proposed for such irregular working hours and shall set forth the proposed schedule for such hours to give the OWNER ample time to arrange for its personnel to be at the site of the Work.

6.02.B.2 The OWNER will pay for charges of ENGINEER and construction observation performed during regular working hours. The CONTRACTOR shall pay for additional engineering and construction observation charges required during irregular hours which may be authorized under the provisions of paragraph SC-6.02.B.1.

6.02.B.3 The CONTRACTOR shall also pay for the costs of additional engineering charges and construction observation required during the correction of defective Work. Such additional costs incurred during irregular working hours and during the correction of defective Work, shall be subsidiary obligation of the CONTRACTOR and no extra payment shall be made by the OWNER on account of such Work.

SC-6.05 Delete the first paragraph in 6.05.A of the General Conditions in its entirety and insert the following in its place:

6.05.A ENGINEER and OWNER have no obligation to consider "or equal" items or substitutions unless such items are specifically identified in Section 00300 by CONTRACTOR at the time of bid. All "or equal" items and substitute items must be identified at the time of bid. It is the OWNER's sole prerogative to have ENGINEER review proposals, other than those identified in Section 00300, proposed by CONTRACTOR during the course of the Work. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words "or equal" or "or approved equal" no substitution is permitted. Other items of material or equipment of other Suppliers will be reviewed by ENGINEER, with OWNER's approval, if the material or equipment is not named in Section 00300.

- SC-6.08 Add the following to the end of paragraph 6.08.A in the General Conditions:
- "The OWNER, prior to the advertisement of the Project, has applied for or has secured permits and/or licenses for the Project as referenced in Section 01065: Permits and Fees. The CONTRACTOR shall obtain and pay for all other construction permits required."
- SC-6.11.B Add the following the end of 6.11.B:
- "Contractor shall remove and dispose of waste materials, rubbish, and other debris on a weekly basis or when directed by the OWNER or ENGINEER."
- SC-6.11.C Add to the end of 6.11.C:
- "Contractor shall clean the site and the Work to the satisfaction of the OWNER."
- SC-6.11 Add a new sub-paragraph immediately after paragraph 6.11.D of the General Conditions which are to read as follows:
- 6.11.E Use of the OWNER's existing washrooms, lavatories, sanitary facilities or plumbing fixtures by the CONTRACTOR or any of its employees or Subcontractors will not be permitted.
- SC-6.13.C The Owner does not have safety programs that are specifically applicable to the Work. All safety programs associated with the Work shall be the responsibility of the Contractor.
- SC-6.13.D Replace paragraph 6.13.D with the following:
- "Contractor's duties and responsibilities for safety and protection of the Work shall continue until Final Completion and at all times during the correction period that Contractor, subcontractor, supplier, or any other individual directly or indirectly employed by any of them are on site to perform work."
- SC-6.13 Add the following paragraph 6.13.G:
- "The CONTRACTOR shall be completely responsible for any tanks, wet wells or similar structures that may become buoyant during the construction and modification operations due to the ground water or floods and before the structure is put into operation. Should there be any possibility of buoyancy of a structure, the CONTRACTOR shall take the necessary steps to prevent its buoyancy either by increasing the structures weight, by filling it with approved material or other acceptable methods. The proposed final structures have been designed against buoyancy; however, during various construction stages, methods employed by the CONTRACTOR and other conditions which

may affect the buoyancy, the CONTRACTOR shall take the necessary precautions against buoyancy. Damage to any structures due to floating or flooding shall be repaired or the structures replaced at the CONTRACTOR's expense."

SC-6.17 E.1 Add the following at the end of paragraph 6.17.E.1 in the General Conditions:

"Shop Drawings and other submittal data shall be reviewed by the ENGINEER for each original submittal and first re-submittal; thereafter, the CONTRACTOR shall reimburse OWNER for services rendered by ENGINEER for review time and other associated costs of subsequent re-submittals."

SC-6.22 Add the following new paragraphs after paragraph 6.21 of the General Conditions to read as follows:

6.22 Additional Costs: The CONTRACTOR shall reimburse the OWNER for services rendered by the ENGINEER when made necessary by the following:

6.22.1. Work damaged by fire, flood, lightning, or any other cause during construction.

6.22.2. Default by CONTRACTOR or any Subcontractor.

SC-7.01.C In the first sentence of paragraph 7.01.C, amend "promptly" to read "within three (3) days."

Amend the last sentence to read, "Contractor's failure to so report within three (3) days 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."

SC-7.02 Delete paragraph 7.02 of the General conditions in its entirety and insert the following in its place:

7.02 The parties expressly acknowledge that the Work to be done by the CONTRACTOR under this contract may interface with the Work of other contractors. Thus, in addition to the foregoing paragraphs in this Article 7, the following provisions apply.

7.02.A The CONTRACTOR shall cooperate with all other contractors who may be performing Work on behalf of the OWNER in the vicinity of the Work to be done under this contract, and CONTRACTOR shall conduct his operation as to interfere to the least possible extent with the Work of such contractor.

7.02.B The CONTRACTOR shall promptly make good, at its own expense, any injury or damage that may be caused by it to other contractors, employees or subcontractors or suppliers thereof.

7.02.C Any difference or conflict which may arise between the CONTRACTOR and other contractors in regard to their respective Work shall be adjusted and determined by the OWNER.

7.02.D If the Work is delayed because of any acts or omissions of any other contractor, the CONTRACTOR shall have no claim against the OWNER on that account.

SC-8.06 Delete paragraph 8.06 of the General Conditions in its entirety.

SC-9.08.D Add the following sentences to the end of paragraph 9.08.D of the General Conditions:

"No action, either at law or at equity, shall be brought in connection with any such claim, dispute or other matter later than thirty (30) days after the date on which the ENGINEER has rendered such written decision in respect thereof. Failure to bring an action within said thirty (30) day period shall result in ENGINEER's decision being final and binding upon the OWNER and the CONTRACTOR. In no event may any such action be brought after the time at which instituting such proceedings would be otherwise barred by the applicable statute of limitations."

SC-10.01.C &
SC-10.01.D Add the following new paragraphs after paragraph 10.01.B of the General Conditions:

10.01.C At anytime, ENGINEER may request a quotation from CONTRACTOR for a proposed change in the Work. Within seven (7) calendar days after receipt of a request for a quotation for a proposed change, the CONTRACTOR shall submit a written and detailed proposal for an increase or decrease in the Contract Price or Contract Time for the proposed change. ENGINEER shall have twenty-one (21) calendar days after receipt of the detailed proposal to respond in writing. The proposal shall include an itemized estimate of all costs and time for performance that will result directly or indirectly from the proposed change. Unless otherwise directed, itemized estimates shall be in accordance with Articles 11 and 12 of the General Conditions and in sufficient detail to permit an analysis by ENGINEER of all material,

labor, equipment, subcontract, and overhead costs and fees and shall cover all Work involved in the change, whether such Work was deleted, added, changed, or impacted. Any amount claimed for subcontracts shall be similarly supported. Itemized schedule adjustments shall be in sufficient detail to permit an analysis of impact as required in Section 01310: Progress Schedules. Notwithstanding the request for quotation, the CONTRACTOR shall carry on the Work and maintain the progress schedule. Delays in the submittal of the written and detailed quotation will be considered a non-prejudicial delay as defined in the Supplementary Conditions.

10.01.D The adjustment in Contract Price and/or Contract Time stated in a Change Order shall comprise the total price and/or time adjustment due or owed the CONTRACTOR for the Work or changes defined in the Change Order. By executing the Change Order, the CONTRACTOR acknowledges and agrees that the stipulated price and/or time adjustments include the costs and delays for all Work contained in the Change Order, including costs and delays associated with the interruption of schedules, extended overheads, delay, acceleration and cumulative impacts or ripple effect on all other non-affected Work under this contract. Signing of the Change Order constitutes full and mutual accord and satisfaction for the adjustment in the Contract Price or Contract Time as a result of increases or decreases in costs and time of performance caused directly and indirectly from the change, subject to the current scope of the entire Work as set forth in the Contract Documents. Acceptance of the Change Order constitutes an agreement between OWNER and CONTRACTOR that the Change Order represents an equitable adjustment to the Contract Documents, and that the CONTRACTOR will waive all rights to file a claim on this Change Order after it is properly executed.

SC-10.05 Add the following new paragraphs after paragraph 10.05.F of the General Conditions:

10.05.G. This Project is a "Public Work" under Chapter 255, Florida Statutes. No liens may be filed against OWNER. Any Claimant may apply to the OWNER for a copy of this Contract and the Public Construction Bond. The Claimant shall have a right of action against the CONTRACTOR and surety for the amount due him. Such action shall not involve the OWNER in any expense claims against the CONTRACTOR or the surety are subject to timely prior notice to both the CONTRACTOR

and the Surety as specified in Section 255.05 Florida Statutes. The CONTRACTOR shall insert the following in all subcontracts hereunder.

"NOTICE: Claims for labor, materials, and supplies are not assertable against the OWNER and are subject to proper prior notice to the CONTRACTOR and the Surety pursuant to Chapter 255 of the Florida Statutes. This paragraph shall be insert in every subcontract hereunder."

SC-12.02 Delete paragraph 12.02 of the General Conditions in its entirety and insert the following in its place:

12.02.A The Contract Time may be changed only by a Change Order. Any claim for an extension or shortening in the Contract Time shall be based on written notice delivered to the OWNER and ENGINEER within fifteen (15) days from detection or the beginning of any event or circumstance giving rise to an Excusable or Compensable Delay and setting forth the general nature of the cause of delay. Within thirty (30) days of any such detection or beginning of event, the CONTRACTOR shall provide the analysis and documentation required to ascertain the facts, as specified in Section 01310: Progress Schedules and shall provide a written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR has reason to believe it is entitled as a result of the occurrence of said event. No claim by the CONTRACTOR under this provision shall be allowed unless the CONTRACTOR has given the notice and the analysis and documentation required in this paragraph, or if asserted after final payment.

12.02.B No forfeiture due to delay shall be made because of any Excusable and Prejudicial Delays in the completion of the entire Work or a specified part thereof. Any such delays shall not entitle the CONTRACTOR to any change in Contract Price. The sole remedy of the CONTRACTOR shall be an extension of the Contract Time pursuant to this Article and the provisions of Section 01310: Progress Schedules.

12.02.C No forfeiture due to delay shall be made because of any Compensable and Prejudicial Delays in the completion of the Work or a specified part thereof. Any such delays will entitle the CONTRACTOR solely to an extension of the Contract Time pursuant to this Article and the provisions of Section 01310: Progress Schedules, of the General Requirements.

- 12.02.D No extensions of Contract Time or increases in Contract Price shall be granted for Nonprejudicial Delays of any type or for Inexcusable Delays, unless otherwise agreed to by the OWNER at his sole discretion.
- SC-13.03 B Delete Paragraph 13.03.B and sub-paragraphs 13.03.B.1, 13.03.B.2 and 13.03.B.3 in their entirety and insert the following:
- 13.03.B Payment of testing and laboratory services is specified in Section 01410; Testing and Laboratory Services for inspections and tests required by the Contract Documents. In addition to the requirements specified in Section 01410, CONTRACTOR shall pay for all inspections, tests or approvals covered by paragraph 13.03.C.
- SC-13.06 Add a new paragraph 13.06.C as follows:
- "The CONTRACTOR shall not be entitled to an extension of Contract Time or increase in Contract Cost for removing or correcting defective work."
- SC-13.07.A Add a new paragraph 13.07.A.5:
- "When deemed necessary by OWNER, CONTRACTOR shall furnish and install at no cost to OWNER, such temporary equipment and material necessary to maintain functionality of the Work while defective Work is being corrected or replaced."
- SC-13.07.B Revise the first (1st) sentence of paragraph 13.07.B as follows:
- "..., or in an emergency where delay would cause risk of loss, damage, present a threat to OWNER or the public, the environmental or cause or present a threat of violation of any Laws and Regulations, OWNER may..."
- SC-14.02 Add a new paragraph 14.02.A.4 as follows:
- "Applications for payment shall be in accordance with Section 01027."
- SC-14.02 Delete subparagraph 14.02.C of the General Conditions and replace it with the following sentence:
- "Thirty (30) days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.02.B) become due and payable by OWNER to CONTRACTOR."

SC-14.04.A Delete the first sentence of paragraph 14.04.A of the General Conditions and replace it with the following sentences:

"After all requirements of Section 01700: Contract Closeout have been met with respect to Substantial Completion, then 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 (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion."

SC-14.06.A Amend 14.06.A to read as follows:

"After all requirements of Section 01700: Contract Closeout have been met with respect to Final Inspection 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 is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. Contractor shall not request a Final Inspection until CONTRACTOR has achieved Substantial Completion."

SC-14.07.A Add the following subparagraphs after Paragraph 14.07.A.3 of the General Conditions:

14.07.A.4 Notwithstanding any provision of the Contract Documents to the contrary, the OWNER shall not be deemed to have accepted the Work or waived claims against the CONTRACTOR until (i) payment of all remaining amounts of the Contract Price as provided under Paragraph 5.3. of the Agreement, (ii) all Record Drawings, specifications, addenda, modifications and shop drawings are delivered to and accepted by the ENGINEER, and (iii) the CONTRACTOR has met all conditions of General Condition 13.07 - Correction Period.

SC-15.01 Add a new subparagraph immediately after paragraph 15.01.A of the General Conditions to read as follows:

15.01.B Notwithstanding this paragraph 15.01, if the OWNER stops Work under paragraph 13.05 or suspends the CONTRACTOR's services under paragraph 13.06 of the General Conditions, or suspends the Work or any portion thereof because of the CONTRACTOR's failure to prosecute the Work without endangering persons and property, the CONTRACTOR shall not be entitled to an extension of Contract Time or increase in Contract Price.

SC-16.01 Add a new paragraph 16.01.D as follows:

"The CONTRACTOR shall carry on the Work and maintain the progress schedule during any dispute, regardless of how resolved, unless otherwise mutually agreed in writing. Venue for any litigation, at law or equity or arbitration, shall lie exclusively in the place of the OWNER's choosing. This Contract, or any provision hereof, shall be construed and interpreted, and any litigation arising therefrom, shall be governed by the laws of the State of Florida."

SC-17.01 Add the following after paragraph 17.01.A.2:

"3. Delivered by an independent carrier than can substantiate delivery with a tracking number and name of an individual or member of the firm accepting receipt."

SC-17.07 &
SC-17.08 Add the two paragraphs immediately after paragraph 17.06 of the General Conditions which are to read as follows:

17.07 The form of all submittals, notices, change orders and other documents permitted or required to be used or transmitted under the Contract Documents shall be determined by the ENGINEER.

17.08 All representations, warranties and guarantees made in the Contract Documents shall survive final payment and termination or completion of the Agreement. Also, the obligation of the CONTRACTOR to maintain the Work until Substantial Completion shall survive final payment and termination or completion of the Agreement.

END OF SECTION

SECTION 00843

CHANGE ORDER FORM

Project: **City of Crestview**
Lift Station #9 Renovation

CHANGE ORDER NO. _____

DATE OF ISSUANCE: _____

CONTRACTOR: _____

EFFECTIVE DATE: _____

ENGINEER: _____

OWNER'S CONTRACT NO.: _____

The following changes are hereby made to the Contract Documents:

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price \$ _____	Original Contract Times Substantial Completion: _____ Ready for final payment: _____ days or dates
Net changes from previous Change Orders No. ___ to No. ___ \$ _____	Net change from previous Change Orders No. ___ to No. ___ _____ days
Contract Price prior to this Change Order \$ _____	Contract Times prior to this Change Order Substantial Completion: _____ Ready for final payment: _____ days or dates
Net Increase (decrease) of this Change Order \$ _____	Net Increase (decrease) of this Change Order _____ days
Contract Price with all approved Change Orders \$ _____	Contract Times with all approved Change Orders Substantial Completion: _____ Ready for final payment: _____ days or dates

CHANGES ORDERED:

- I. GENERAL This change order is necessary to cover changes in the work to be performed under this Contract. The General Conditions, Supplementary Conditions, Specifications and all parts of the Project Manual listed in Article 1, Definitions, of the General Conditions apply to and govern all work under this change order.

Change Order No. _____

- II. REQUIRED CHANGES: _____

- III. JUSTIFICATION: _____

- IV. PAYMENT: _____

V. APPROVAL AND CHANGE AUTHORIZATION: _____

Acknowledgments:

The aforementioned change, and work affected thereby, is subject to all provisions of the original contract not specifically changed by this Change Order; and,

It is expressly understood and agreed that the approval of the Change Order shall have no effect on the original contract other than matters expressly provided herein.

Change Order Request by: _____

Change(s) Ordered by: _____

RECOMMENDED BY:

ACCEPTED BY:

(Engineer)

(Contractor)

By: _____
(Authorized Signature) (Date)

(Authorized Signature) (Date)

(Title)

(Title)

APPROVED BY:

City of Crestview, Florida _____
(Owner)

By: _____
(Authorized Signature) (Date)

END OF SECTION

SECTION 00844

APPLICATION AND CERTIFICATE FOR PAYMENT FORM

Application No. _____ Progress _____ Final _____

Engineer's Project No.: _____

Project: **City of Crestview
Lift Station #9 Renovation**

Contractor: _____ Contract Date: _____

Contract for: _____

Application Date: _____ For Period Ending _____

Change Order Summary		ADDITIONS	DEDUCTIONS
Change Orders approved in previous months by OWNER TOTAL			
Approved this month			
Number	Date Approved		
TOTALS			
Net Change by Change Orders			

- 1. ORIGINAL CONTRACT SUM \$ _____
- 2. Net Change by Change Order \$ _____
- 3. CONTRACT SUM TO DATE (Line 1 and 2) \$ _____
- 4. TOTAL COMPLETED AND STORED TO DATE \$ _____
- 5. RETAINAGE: (Column I & N, Forms 00845 and 00846)
 - a. _____% of Completed Work \$ _____
 - b. _____% of Stored Material \$ _____
 - Total Retainage (Line 5a and 5b) \$ _____
- 6. TOTAL EARNED LESS RETAINAGE
(Line 4 less Line 5 Total) \$ _____
- 7. LESS PREVIOUS CERTIFICATES FOR PAYMENT
(Line 6 from prior Certificate) \$ _____
- 8. AMOUNT DUE THIS APPLICATION \$ _____
- 9. BALANCE TO FINISH, PLUS RETAINAGE
(Line 3 less Line 6) \$ _____

Contractor's Certification

The undersigned Contractor hereby swears under penalty of perjury that (1) all previous progress payments received from the Owner on account of Work performed under the contract referred to above have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with Work covered by prior Applications for Payment numbered 1 through ____ inclusive; and (2) all materials and equipment incorporated in said Project or otherwise listed in or covered by this Application for Payment are free and clear of all liens, claims, security interest and encumbrances; (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective as that term is defined in the Contract Documents.

Dated _____, 20__

(Contractor)

By: _____
(Name)

(Title)

COUNTY OF _____

STATE OF _____

Before me on this _____ day of _____, 20__, personally appeared _____, known to me, who being duly sworn, deposes and says that (s)he is the _____ of the Contractor above mentioned; that(s) he executed the above Application for Payment and statement on behalf of said Contractor; and that all of the statements contained therein are true, correct and complete.

Notary Public
My Commission Expires _____

Engineer's Recommendation

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

By: _____
(Authorized Signature)

Date: _____

Owner's Approval

By: _____

(Title)

Acct. No. _____

Date: _____

END OF SECTION

**SECTION 00845
SCHEDULE OF VALUES**

Pay Estimate No. _____ Project _____
 For Period Ending _____ Prepared by _____ Page ____ of ____

A	B	C	D	E	F	G		H		I
Item	Description	Bid Quantity	Units	Unit Price	Bid Amount	Complete Through Last Period		Complete Through This Period		Value of Items Completed
						Qty.	%	Qty.	%	
						Subtotals				

SECTION 00849

CONTRACTOR'S FINAL RELEASE OF LIEN

Before me the undersigned authority in said County and State, appeared _____ who, being first duly sworn, deposes and says that he is _____ of _____, a company and/or corporation authorized to do business under the laws of Florida, which is the Contractor on the Contract described as: City of Crestview - Lift Station #9 Renovation dated the _____ day of _____, 20____, that the said deponent is duly authorized to make this affidavit by resolution of the Board of Directors of said company and/or corporation; that deponent knows of his own knowledge that said Contract has been complied with in every particular by said Contractor and that all parts of the work have been approved by the Owner's Engineers; that there are no bills remaining unpaid for labor, material, or otherwise, in connection with said Contract and work, and that there are no suits pending against the undersigned as Contractor or anyone in connection with the work done and materials furnished or otherwise under said Contract. Deponent further says that the final estimate which has been submitted to the owner simultaneously with the making of the affidavit constitutes all claims and demands against the Owner on account of said Contract or otherwise, and the acceptance of the sum specified in said final estimate will operate as a full and final release and discharge of the Owner from any further claims, demands or compensation by Contractor under the above Contract. Deponent further agrees that all guarantees under this Contract shall be in full force from the date of this release as spelled out in the Contract Documents.

Sworn to and subscribed to before me this _____ day of _____, 20_____.

Notary Public

My Commission Expires _____

We, the _____ having heretofore executed a Performance Bond for the above-mentioned Contractor covered Project and Section as described above in the sum of _____ dollars (\$_____), hereby agree that the Owner may make full payment of the final estimate, including the retained percentage, to said Contractor.

It is fully understood that the granting of the right to the Owner to make payment of the final estimate to said Contractor and/or his assigns, shall in no way relieve the surety company of its obligations under its bond, as set forth in the Specifications, Contract and Bond pertaining to the above Project.

IN WITNESS WHEREOF, the _____ has caused this instrument to be executed on its behalf by its _____ and/or its duly authorized attorney in fact, and its corporate seal to be hereunto affixed, all of this _____ day of _____, A.D., 20_____.

Surety Company

Attorney in Fact

(Power of Attorney must be attached if executed by Attorney in Fact)

STATE OF FLORIDA

COUNTY OF _____

Before me the undersigned authority, personally appeared to me well known as the person described in and who executed the foregoing instrument in the name of _____ and/or _____ purpose therein expressed and that he had due and legal authority to execute the same on behalf of said _____, a corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal at _____ this _____ day of _____, 20_____.

Notary Public

END OF SECTION

Standard Construction Specifications

For



Lift Station #9 Renovation

Bid No: 19-0912

715 N Ferdon Boulevard

Crestview, Florida 32536

Phone: 850-682-6132

Fax: 850-682-7359

Aug 2019

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NOTE:

Section 3 and Section 4 will supersede anything in other sections that contradict section 3 and section 4.

1.1 DEFINITIONS

- 1.1.1 The words "CITY OF CRESTVIEW" and "CITY OF CRESTVIEW PUBLIC WORKS," as employed herein, shall collectively refer to the owner and manager of the utility system providing service to the CITY OF CRESTVIEW and some nearby locations.
- 1.1.2 The word "ENGINEER," as employed herein, shall mean the licensed design professional representing CITY OF CRESTVIEW PUBLIC WORKS.
- 1.1.3 The word "CONTRACTOR," as employed herein, shall mean the person, persons, partnership, company, or corporation entering into a contract for the performance of the work defined by the CONTRACT DOCUMENTS.
- 1.1.4 The term "SUBCONTRACTOR" as employed herein includes only those having a direct contract with CONTRACTOR and it includes one who furnishes material worked to a special design according to the CONTRACT DOCUMENTS or SPECIFICATIONS of this work but does not include one who merely furnishes material not so worked.
- 1.1.5 Wherever the word "MANUFACTURER" is used it refers to a person, partnership, or corporation who is furnishing material or equipment to either the OWNER, CONTRACTOR or both.
- 1.1.6 The word "OWNER," as employed herein, shall refer to the CITY OF CRESTVIEW and CITY OF CRESTVIEW PUBLIC WORKS.
- 1.1.7 The words "CONTRACT DOCUMENTS" shall collectively mean the project construction drawings, details and specifications provided to, and authorized for construction by CITY OF CRESTVIEW PUBLIC WORKS.
- 1.1.8 The word "SPECIFICATIONS" shall refer to these reference documents which outline the notes and responsibilities of the parties and documents listed above.

2.1 SCOPE

- 2.1.1 The standards set forth in this document are intended to provide a basis for construction of the Renovation of Lift Station #9.
- 2.1.2 Applicable Federal, State and County environmental laws and regulations shall be considered concurrently with this text.
- 2.1.3 Any variation from these standards is to be approved in advance by CITY OF CRESTVIEW PUBLIC WORKS Director or his designated representative prior to construction.
- 2.1.4 It is intended that the requirements of this document shall be applicable in all cases where the facilities being constructed or to be constructed shall be owned and/or operated and maintained by CITY OF CRESTVIEW PUBLIC WORKS. These requirements shall also be applicable to those portions of facilities which shall lie within public right-of way.
- 2.1.5 CITY OF CRESTVIEW PUBLIC WORKS shall enforce the CONTRACT DOCUMENTS.
- 2.1.6 No changes shall be made to CONTRACT DOCUMENTS without written consent from CITY OF CRESTVIEW PUBLIC WORKS.
- 2.1.7 No construction shall start prior to a pre-construction conference with CITY OF CRESTVIEW PUBLIC WORKS.
- 2.1.8 It shall be the responsibility of CONTRACTOR to notify CITY OF CRESTVIEW PUBLIC WORKS forty-eight (48) hours in advance of all field-testing and meetings
- 2.1.9 CONTRACTOR shall be responsible for locating and protecting existing underground utilities and any other existing improvements located. (i.e., water, sewer, electric, gas, phone, cable television, etc).
- 2.1.10 Where reference is made in these specifications to specifications compiled by other agencies, organizations or departments, such reference is made for expediency and standardization and such specifications referred to are hereby made a part of these specifications.

SECTION 3 PUMPS

3.1 General:

Each pump shall be capable of delivering the following performance points, 640 U.S. GPM at 123' TDH; 256 U.S. GPM at 158' TDH; with a shut off head of 172' TDH (minimum) and minimum efficiency at 640 U.S.GPM at 123' TDH (operating point). The pump motor shall be 1750 RPM, 40HP (minimum), 3-Phase, 60 Hertz, 460 Volts. The pump (s) shall be manufactured by a company regularly engaged in the manufacture and assembly of submersible units for a minimum of five (5) years. The pump (s) shall be SITHE by Barnes@ Pumps model 4XSDI. Pumps must be "MADE IN THE USA".

3.2 PUMP DESIGN:

Each pump shall be capable of handling raw, unscreened domestic sewage consisting of water, fibrous materials, and solids at heavy consistencies. The pump shall be able to chop/ macerate solids without clogging with chopped solid size not less than 1 inch, and the chopping mechanism shall be an integral part of the pump. Tie pump(s) shall be capable of handling liquids with temperatures to 104 degrees F continuous, 160 degrees F intermittent. Bearings shall be oil-lubricated and designed for 50,000 hours operating at minimum flow. Product shall be furnished with oil filled Inverter Duty Motors per NEMA MG-I, Part 31 with stator winding of the open type with Class H spike resistant magnet wire. The pump shall be CSA certified as Class I Div. 1 Class C&D explosion proof with a T4 temperature rating.

3.3 PUMP CONSTRUCTION:

The volute, seal plate, adapter, motor housing and motor housing cap shall be constructed of high quality, ASTM A-48 Class 30 cast iron. Impeller shall be furnished in ASTM A-532 class III Type A White Iron for abrasive applications with a keyed, tapered shaft bore. Pump(s) shall be coated with two coats of Axalta™ amido amine modified polymer satin gloss epoxy with a total 10 mil minimum thickness in the manufacturer's standard color. All exposed hardware shall be 300 series stainless steel including the lifting bail. Discharge connection shall be a standard 125-pound 4" flange, slotted to accommodate 4" ANSI or 100mm ISO flanges. The suction side of the 'volute shall contain 16 points of attachment for accessories and additional configurations including attachment of a 4" ANSI or 100mm ISO flanges.

The pump shaft shall be 416 stainless steel with a tapered impeller fit to reduce rotor imbalance and minimize stress risers associated with stepped shafts. All gaskets shall be of the angular gland compression O-ring type eliminating critical slip fits and the possibility of damage during service associated with sliding O-ring sealing arrangements. The impeller shall be a mono 'vane design with pump out vanes.

The chopping mechanism shall consist of a bladed stationary plate and a rotating blade. Both blades shall only be constructed of high quality, ASTM A276 440C stainless steel, heat treated to 56-60 HRC. Pumps that do not utilize SST heat treated blades will not be accepted. The rotating blade shall be press-fitted on to the impeller and secured to the impeller by four stainless steel pins. The bladed stationary plate shall be fixed to the 'volute in eight locations. The bladed stationary plate shall be adjustable to maintain a clearance of 0.001" to 0.008" between the stationary blade and rotating blade. The bladed impeller assembly shall be dynamically balanced to ISO G6.3 specifications. The bladed stationary plate shall be sealed internally against the volute with an O-ring.

The chopping mechanism shall consist of dual wear ring system. The rotating blade shall operate as a wear ring for the impeller along the outer diameter of the impeller assembly. The matching 'volute shall be provided with an external replaceable SST wear ring at the inlet.

The tandem mechanical shaft seals shall be of the single spring design operating in an intermediate oil-filled seal cavity. Pump-out vanes on back side of the impeller shroud shall be large enough to efficiently expel solids away from the seal area. The materials of construction shall be silicon carbide vs. silicon carbide for the pump-end seal and carbon vs. ceramic for the motor-end seal, lapped and polished to a tolerance of one light band, 300 series stainless steel hardware, and Buna-N elastomeric parts. The pump-end seal shall be pinned in place to prevent rotation of the stationary seat and shall seal to the pump housing via an O-ring to maximize heat transfer. Cup mounted seats shall not be considered equal. The seal shall be commercially available and not a pump manufacturer's proprietary design. A moisture sensor detection system consisting of two probes shall be integrated within the oil-filled seal chamber which is isolated from the motor chamber. Units sensing moisture within the motor chamber are not acceptable. Moisture sensing devices utilizing one probe and grounding through the pump case or utilizing a float device are not acceptable. The leads for the moisture detector and temperature sensors shall be contained within the power cable, except that for 1/0 cables, the sensor leads will be in a separate cable. The seal probe wires must terminate to a module provided by pump manufacturer in the control panel.

The pump motor shall be sized to be non-overloading throughout the entire system operating range. The rotor and stator assembly shall be of the standard frame design and the stator pressed into the motor housing for mechanical stability. Tie motor shall be constructed with the windings operating in a sealed environment containing clean dielectric oil. Manufacturer to supply submergence requirements for continuous operation.

Motors shall be dielectric oil filled for optimal thermal management and maximum bearing life. Air-filled motors with grease-filled bearings shall not be acceptable. The motor windings shall be of Class H, spike-resistant insulation. The motor shall meet the NEMA Design B standard and be Inverter Duty Rated per NEMA MG1, part 31.

The pump shaft shall be of 416 stainless steel, keyed and tapered for the matching impeller. The lower bearing shall be of the double row ball type, locked in position to accept radial and axial thrust loads, and the upper bearing of the single ball type for radial loads. Bearings shall operate in an oil bath environment for superior lubrication, cooling and life.

THREE PHASE: Three thermal sensors (one per phase) shall be embedded in the end coil of the stator windings, wired in series and used to monitor stator temperatures. This shall be used in conjunction with an external motor overload protection device and wired to the control panel through the single power cable. Overload Protection module must be supplied by the Pump Manufacturer and integrated along with seal fail module in the duplex control panel.

The pump shall be equipped with (30/50/75/100) ft. of a CSA-qualified submersible quick connect power cable constructed in accordance with type W guidelines and shall include the moisture and temperature sensor leads. 28 Frame pumps, cord connection shall be a pump mounted plug and a rigid cord socket contained by a cast iron housing bolted to the motor with epoxy-potted cable connections and sealed by compressed O-rings.

3.4 PUMP TEST:

The pump manufacturer shall perform a standard three-point performance test at the minimum. If certified testing is required, the manufacturer shall offer to perform tests in accordance with Grades B, E and U of Hydraulic Institute standards. Additionally,

1. A check of the motor 'voltage and frequency shall be made as shown on the name plate.
2. A motor and cable insulation test for moisture content or insulation defects shall be made per CSA criteria.
3. A performance curve from the production line test showing head 'versus flow shall be included in the Installation and Operation Manual shipped with each pump.
4. A written report shall be available showing the aforementioned tests have been performed in accordance with the specifications.

3.5 START-UP:

The pump(s) shall be tested at start-up by a qualified representative of the manufacturer. A start-up report as provided by the manufacturer shall be completed before final acceptance of the pump(s).

3.6 WARRANTY:

Pump(s) must include five (5) year 100% non-prorated warranty to cover shop labor and parts. White Chromium Iron (Hard Metal) Impellers will have five (5) year 100% non-prorated abrasion warranty. If the impellers develop wear due to abrasion they will be replaced at zero cost to The City of Crestview.

3.7 DOCUMENTATION:

The manufacturer, if requested, will supply a minimum of two (2) sets of standard submittal data; Standard submittal data consist of:

1. Pump catalog data;
2. Pump performance curve;
3. Typical installation drawing to include above ground pipe and valves;
4. Accessory data;
5. Installation & Operation Manuals with Parts List.

SECTION 4 WET WELL AND CONTROL PANEL

4.1 FIBERGLASS WET WELL:

Maximum O.D 8'-6" fiberglass wet well x 228" deep "Kitted up" with pump guide rail systems with 4" x 6" base elbows, upper rail brackets, intermediate rail brackets, 2 inch Sch.40 316 SST Guide Rails, 6 inch Sch.40 316 SST discharge pipe, two (2) 2 Hook SST cord brackets, one (1) 6 Hook float Bracket and Engineer stamped antiflotation and structural calculations. Antiflotation ribs shall be every 17 inches of depth and must not be more than 8'-6" O.D to fit into existing concrete wet well.

Note:

1. The fiberglass integrator must provide a certified fiberglass crew to be on site during installation to fiberglass inlet pipe(s) into wet well.
2. Any dewatering required to keep wet well dry during the inlet installation will be provided by Contractor. The annular space between old concrete structure and new FG wet well must be dry to perform field fiberglass work connecting inlet pipes.
3. Crane must be provided by Contractor to lift new FG insert into place.
4. Dual 6" Discharge pipes must terminate 24" above grade and will be ready to accept above ground Sch.40 316 SST Pipe and fittings. 6" 'val'ises must be Epoxy Coated. Check valves must be tapped to accept SST ball valves and pressure gauges.
5. All piping and valves must be as shown on lift station detail.
6. Wet well grouting procedure must follow manufacturers installation guide. The fiberglass wet well manufacturer must provide a factory employee to provide over-sight for the grouting procedures.

4.2 DUPLEX CONTROL PANEL:

Duplex SST Control panel enclosure must be mounted onto 24" tall integral "Air Break" pedestal with expanded metal and SST fine bug screen backing. Both Pedestal sides will be hinged for easy access. Enclosure and pedestal must be SST and powder coated "Forest Green". Items that must be integrated into panel are as follows:

- Danfoss N4X Variable Frequency Drives with heat sinks thru back, integral fuses with one spare set provided as parts and 6 year "On-Site" warranty that covers heat, lightning, surges, corrosion.
- Omni Site Crystal Ball with 5 years of service for Triplex Control (Pump 1, Pump 2 and Mixer) and four (4) float control with Advantage Plan Lifetime Software, hardware and unit repair of the Crystal Ball included. Supply one (1) spare Crystal Ball.
- Pipe Mounted Fiber Optic Float Level Sensors to include weighted 1" x 72" SST pipe with bail and SST chain (See detail). 2 Spare Power Supplies, 4 spare Transceivers and four floats must be included.

-Main Disconnect Breaker / Pump Breaker for each Pump / Odor Scrubber Breaker / Mixer Breaker.

-Mixer Nema Rated Starters and Timer for mixer control. Mixer shall also have H-O-A switch.

-120 Volt simplex receptacle to accept "Panel Handle Alarm" equipment. See Panel Bill of Materials and detail attached.

4.3 DOCUMENTATION:

The manufacturer, if requested, will supply a minimum of two (2) sets of standard submittal data; Standard submittal data consist of:

1. Guide Rail Systems;
2. Fiberglass Wet Well to include Engineer's stamped structural and antifoatation calculations;
3. Access cover data;
4. Typical installation drawing to include above ground pipe and valves;
5. Control panel data to include drawings and bill of materials;
6. Panel wiring schematic;
7. Accessory data;
8. Installation & Operation Manuals with Parts List.

**SECTION 14
WATER MAINS AND WASTEWATER FORCE MAINS**

14.01 GENERAL (Related Requirements Specified Elsewhere)

- A. Trenching, Backfilling and Compacting (See Section 12).
- B. Pipe Boring and Jacking (See Section 13).

14.02 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Owner reserves the right to reject material left from another job.
- B. Store materials to prevent physical damage.
- C. Protect materials during transportation and installation to avoid physical damage.

14.03 GENERAL DESCRIPTION OF WORK COVERED

Furnish and install all pipe, fittings, structures and accessories required for water transmission line and/or pressure sewer lines.

14.04 QUALITY ASSURANCE

- A. Comply with the latest published edition of American Water Works Association (AWWA) Standards:

- AWWA C106 – Cast Iron Pipe Centrifugally Cast in Metal Molds for Water and Other Liquids.

- AWWA C108 – Cast Iron pipe Centrifugally Cast in Sand Lined Molds for Water or Other Liquids.

- AWWA C110, C1100a – Gray Iron and Ductile Iron Fittings, 2" through 48" for Water and Other Liquids.

- AWWA C111 – Rubber Gasket Joints for Cast Iron Pressure Pipe and Fittings.

- AWWA C150 – Thickness Design of Ductile Iron Pipe.

- AWWA C151 – Ductile Iron Pipe, Centrifugally Cast in Metal Mold or Sand Lined Molds, for Water or other Liquids.

- AWWA C153 – Ductile Iron Compact Fittings, 3" through 12" for Water and Other Liquids.

- AWWA C600 – Installation of Ductile Iron Water Main and Appurtenances.

- AWWA C605-05 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water

- AWWA C900-97 – Polyvinyl Chloride (PVC) Pressure Pipe, 4" through 12", for Water Distribution.

- B. Comply with the latest published editions of the American Society for Testing and Materials (ASTM) Standards.

14.05 PRODUCTS (General Requirements)

- A. Pipe furnished may be either PVC or ductile iron for water mains unless shown otherwise on the plans of bid documents.

B. PVC or ductile iron pipe shall be used for all pressure sewer lines unless shown otherwise on the plans.

C. All pipe shall be marked in accordance with the applicable standard specification under which the pipe is manufactured unless otherwise specified.

14.06 POLYVINYL CHLORIDE PIPE (PVC)

A. Provide pipe meeting AWWA C900 PVC 1120 or ASTM D2241 Type 1 Grade 1 PVC 1120 Standards.

1. Minimum requirements:

	Std. Size	SDR/DR	Pressure Class (psi)	Pressure Rating (psi)
C900	4"-12"	25	165	165-350
D2241	2"-3"	26	160	160-340

2. Use pipe meeting minimum requirements unless shown otherwise on plans.

B. Provide push-on joints with bell integrally cast into pipe or with coupling of same material as pipe.

C. Use elastomeric gaskets, as provided in AWWA C900 or ASTM D3139.

D. Provide cast-iron or ductile-iron fittings.

E. Provide fittings with materials and pressure class equal to or greater than that specified for pipe.

F. Provide sleeve type or anchored coupling where indicated or required to join pipe or provide restraint to offset internal or hydrostatic test pressures.

G. Provide pipe marked to indicate the following:

1. Nominal Pipe Size.
2. Material Code Designation.
3. Standard Dimension Ratio.
4. Pressure Rating.
5. Manufacturer's Name or Trademark.
6. National Sanitation Foundation Seal.
7. Appropriate ASTM Designation Number.

H. Provide one of the following methods of color-coding the pipe:

1. 3 color stripes (1/2 inch high) with permanent ink along the entire length of pipe as follows:

- a. Water Main Pipe - Blue in color with the word "WATER" in 3/4 inch letters every 21 inches along each stripe.
- b. Sewage Force Main Pipe - Green in color with the word "FORCE MAIN" in 3/4 inch letters every 21 inches along each stripe.

2. Use pipe pigment to color code pipe: a. Water – Blue; b. Sewer (Force Main) – Green.

14.07 DUCTILE IRON PIPE (D.I.P.)

- A. Use pipe complying with AWWA C151 except as otherwise specified.
- B. Provide thickness class based on AWWA C151 and as follows:
 - 1. 3" to 4" Diameter - Class 51, minimum.
 - 2. 6" to 18" Diameter - Class 50, minimum.
- C. Provide cement mortar lined pipe complying with AWWA C104 and coated with manufacturer's standard coating for all pipe and fittings.
- D. Provide mechanical or push-on joints for all buried pipe in accordance with AWWA C111.
- E. Provide flanged joints for all interior and exterior exposed pipe.
- F. Provide mechanical sleeve type couplings where specified or indicated.
- G. Provide anchored couplings where indicated to withstand specified operating or hydrostatic test pressure.
- H. Provide Fittings:
 - 1. In accordance with AWWA C110 with pressure rating of not less than that specified for adjacent pipe.
 - 2. Use mechanical joints on all fittings.
 - 3. With all specials, taps, plugs, flanges and wall fittings as required.
 - 4. With cement mortar lining in accordance with AWWA C104.
 - 5. Coated with manufacturer 's standard coating.

14.08 VALVES, HYDRANTS AND APPURTENANCES

- A. Gate Valves:
 - 1. Design: Latest edition of AWWA C509, Compression Resilient-Seated Valves.
 - a. American Darling - CRS-80.
 - b. Mueller .
 - c. Clow - Style 2830 .
 - d. Kennedy .
 - e. AVK
 - f. Others as approved by the City in writing.
 - 2. Material: Cast-iron body with epoxy coated interior.
 - 3. Rating: 200 psi working pressure class.
 - 4. Stem: "O" ring above and below thrust collar.
 - 5. Operators: Open counterclockwise (left turn) with 2" square operating nut.
 - 6. Jointing: Mechanical joint.
- B. Butterfly Valves:
 - 1. Design: AWWA C504, Class 150 B.
 - a. Dresser "450"
 - b. American Darling Class 150.
 - c. Others as approved by City in writing.
 - 2. Body: Heavy-duty cast iron.
 - 3. Shafts: One-piece, ANSI 304 Stainless Steel.
 - 4. Seat: Full Circle 360° Seat, Not Penetrated by Valve Shaft, Mechanically Secured.
 - 5. Bearings: Sleeve-type, Self-lubricated.

6. Operators: Traveling Nut-type, Fully Enclosed, Permanently Lubricated, Open Counterclockwise (left turn).
 7. Connections: Mechanical Joints.
 8. Actuators: Manual, with Handwheel.
- C. Valve Boxes:
1. Provide for all buried valves.
 2. Use nominal 6-inch cast-iron sliding or screw type pipe shaft with cover and base casting.
 3. Set box top at finished grade.
 4. Furnish drop cover appropriately marked "WATER" or "SEWER".
- D. Corporation Stops:
1. Conform with AWWA C800.
 2. Use 1-inch unless indicated otherwise.
- E. Hydrants:
1. Design: Latest edition of AWWA C502, traffic model with breakaway flange.
 - a. Mueller Centurion - A423.
 - b. American-Darling - B-84-B.
 - c. Kennedy Guardian - K-8IA.
 - d. AVK
 - e. Others as approved by the City in writing.
 2. Provide 6-inch inlet, 2 - 2 1/2 inch hose nozzles, 1 - 4 1/2 inch pumper.
 3. Nozzles shall be field replaceable utilizing straight threads or quarter-turn seal by an "O" ring.
 4. Provide compression type main valve, minimum size 5 1/4 inches.
 5. Pentagon operating nut, 1 1/2 inch in size.
 6. Design to open counterclockwise (turn left).
 7. Provide mechanical joint bell on foot piece.
 8. Finish depth as noted on plans.
 9. Furnish National (American) Standard Fire Hose Coupling Screw Thread (NH).
- F. Post Hydrant:
1. Only for use as a flush stand.
 - a. Mueller Post Hydrant No. 411.
 - b. Others as approved by the City in writing.
 2. Provide 2-inch inlet, one 12-inch hose nozzle.
 3. Nozzles shall be field replaceable utilizing straight threads or quarter-turn seal by an "O" ring.
 4. Design to open counter-clockwise (turn left).
 5. Finish depth as noted on plans.
- G. Blow-off Valves:
1. Flush-mounted hydrants as manufactured by Kupferle Foundry, St. Louis, Mo., Model No. 85B, or approved equal.
 2. 2-inch or 3-inch FIP inlet.
 3. 2 1/2-inch NST bronze, male nozzle.
 4. Removable bronze seat, which seals against a seat rubber of no less diameter than 85.
 5. All operating parts shall be removable from above grade with no digging.

6. Installed per Drawings D-40 and D-41.
- H. Air Vacuum Release Valves:
1. For potable water mains:
 - a. The air vent (release) valve shall be float operated and shall incorporate a simple lever mechanism to enable the valve to automatically release accumulated air while the system is pressurized and operating.
 - b. The air vent valve shall close drop-tight, incorporating a renewable vitron seat, suitable for hot or cold water service.
 - c. All internal metal parts shall be of stainless steel.
 - d. The float shall be stainless steel and capable of withstanding a test pressure of 750 psi.
 - e. The linkage/lever mechanism shall be designed to prevent jamming.
 - f. The body and cover shall be of cast iron conforming to ASTM A48, Class 35.
 - g. The air vent valve shall be able to operate at pressure of 200 psi and to withstand a 300 psi test pressure.
 - h. The air release valve shall be as manufactured by Empire Specialty Co., Inc., Mars, PA (figure 905), or approved equal.
 2. For sewage force mains:
 - a. The air release valve shall automatically function at full line pressure to release to atmosphere small amounts of entrained air that may accumulate in a pipeline, chamber or tank.
 - b. The valve shall shut tightly to prevent wastewater leakage.
 - c. The valve body and cover shall be of semi-steel, with vitron resilient seat, and stainless steel float and linkage.
 - d. Flush-out accessories shall be furnished and assembled to the valve consisting of an inlet shutoff valve, blowoff valve, clear water inlet valve, rubber hose and quick disconnect couplings.
 - e. The body and cover shall be of cast iron conforming to ASTM A48 class 3S.
 - f. The air vent valve shall be able to operate at a pressure of up to 150 psi and be designed to withstand a 200 psi test pressure. The air vent (release) valve shall be as manufactured by Empire Specialty Co., Inc., Mars, PA, their Figure No. 905 "Minimatic" or approved equal.
- I. Polyethylene Wrapping:
1. Material: AWWA C105.
 2. Thickness: 8 mils.
- J. Polyethylene Plastic Pipe (PE):
1. Material: ASTM D2737.
 2. Fittings: ASTM D2683.
 3. Size: 3/4 inch unless shown otherwise on plans.
 4. Rated for 200 psi working pressure.
- K. Copper Pipe (CU):
1. Material: Seamless, Type K, ATM B88.
 2. Fittings: Flared or Compression.
 3. Size: 3/4 inch unless shown otherwise on plans.

14.09 EXECUTION

A. General: Provide all labor, equipment and materials and install all pipe fittings, special and appurtenances as indicated or specified.

B. Pipe Installation:

1. Handling:

a. Handle in a manner to ensure installation in a sound and undamaged condition.

(1) Do not drop or bump.

(2) Use slings, lifting lugs, hooks and other devices designed to protect pipe, joint elements, and coatings.

b. Ship, move and store with provisions to prevent movement or shock contact with adjacent units.

c. Handle with equipment capable of work with adequate factor of safety against overturning or other unsafe procedures.

2. Installation:

a. Utilize equipment, methods, and materials insuring installation to lines and grades as indicated.

(1) Do not lay on blocks unless pipe is to receive total concrete encasement.

(2) Accomplish horizontal and vertical curve alignments of pipe with bends, bevels or deflection joints.

(a) Limit joint deflection with ductile iron pipe to conform with AWWA C600.

(b) Use short specials preceding curves as required.

(3) Obtain approval of Engineer of method proposed for transfer of line and grade from control to the work.

b. Install pipe of size, material, strength class, and joint type with embedment as shown on plans or specified herein.

c. Clean interior of all pipe, fittings, and joints prior to installation. Prevent entrance of foreign matter during discontinuance of work.

(1) Close open ends of pipe with snug fitting closures.

(2) Do not let water fill trench. Include provisions to prevent flotation should water control measures prove inadequate.

(3) Remove water, sand, mud and other undesirable materials from trench before removal of end cap.

d. Pipe shall be inspected prior to installation to determine if any pipe defects are present.

e. Brace or anchor as required to prevent displacement after establishing final position.

f. Perform only when weather and trench conditions are suitable. Do not lay in water.

g. Observe extra precaution when hazardous atmospheres might be encountered.

h. Sanitary sewer relation to water mains:

(1) Horizontal separation:

(a) Maintain 10 feet horizontal separation whenever possible.

(b) When a 10-foot separation distance cannot be maintained, the sewer pipe shall be encased in steel casing or in concrete.

(2) Crossing Sewer Pipes:

(a) Sewers crossing under water mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the water main and the crown of the sewer pipe.

(b) Where the 18-inch separation cannot be maintained or when the sewer pipe passes over the water main, the crossing shall be arranged so that the sewer pipe joints and water main joints are equal distance from the 10 feet between any two (2) joints, or the sewer pipe may be placed in a sleeve or encased in concrete for a distance of 10 feet from the point of crossing.

i. No water pipe shall pass through or come in contact with any part of a sewer manhole.

j. Encase water pipe in steel casing or use ductile iron pipe when crossing under pipe, conduit, or structure of 24 inches in diameter or greater when a 6-inch separation distance cannot be maintained. This protection shall extend a minimum of 5 feet beyond crossed structure.

k. Construct service lines where shown on plans in accordance with Standard Detail Drawing. Use pipe material specified on plans or in contract documents.

l. Wrap pipe, fittings and tie rods with polyethylene where shown on plans in accordance with AWWA C105.

m. Maintain minimum of 30 inches of cover unless otherwise directed by Engineer.

3. Jointing:

a. General Requirements:

(1) Perform in accordance with manufacturer's recommendations.

(2) Clean and lubricate all joint and gasket surfaces with lubricant recommended.

(3) Utilize methods and equipment capable of fully homing or making up joints without damage.

(4) Check joint opening and deflection for specification limits.

b. Special provisions for jointing ductile-iron to cast-iron pipe:

(1) Conform to AWWA C600.

(2) Visually examine while suspended and before lowering into trench.

- (a) Paint bell, spigot, or other suspected portions with turpentine and dust with cement to check for cracks invisible to the eye.
 - (b) Remove turpentine and cement by washing when test is satisfactorily completed.
 - (c) Reject all defective pipe.
 - c. Conform to AWWA C600 and ASTM D2321 for jointing and laying PVC pipe.
- 4. Cutting:
 - a. Cut in neat workman-like manner without damage to pipe.
 - b. Cut cast-iron with Carborundrum saw or other approved method.
 - (1) Smooth cut by power grinding to remove burrs and sharp edges.
 - (2) Repair lining as required and approved by Engineer.
- 5. Closure Pieces:
 - a. Connect two (2) segments of pipelines or a pipeline segment and existing structure with short sections of pipe fabricated for the purpose.
 - b. Observe specifications regarding location of joints, type of joints and pipe materials and strength classifications.
 - c. May be accomplished with sleeve coupling for water pipe.
 - (1) Of length such that gaskets are not less than 3 inches from pipe ends.
 - (2) Include spacer ring identical to pipe end such that clear space does not exceed 1/4 inch.
- 6. Temporary Plugs:
 - a. Install whenever installed pipe is left unattended.
 - b. Use water-tight plug.
- 7. Thrust Blocks:
 - a. Provide for all horizontal or vertical turns utilizing fittings.
 - b. Use on all dead-end and tee (T) fittings.
 - c. Install as indicated on Standard Detail Drawings.
 - d. Construct to undisturbed edge of trench for bearing.
 - e. Provide minimum bearing area in S.F. as follows based on 150 psi test pressure and 2,000 psf soil bearing:

Pipe Size	Tee Dead-ends	11.25° Bend	22.5° Bend	45° Bend	90° Bend
4"	1.0	0.5	0.5	0.8	1.3
6"	2.2	0.5	0.9	1.6	3.0
8"	3.8	0.8	1.5	2.9	5.3
10"	6.0	1.2	2.3	4.5	8.4
12"	8.5	1.7	3.3	6.5	12.1
14"	11.6	2.3	4.5	8.9	16.4
16"	15.2	3.0	5.9	11.6	21.4

14.10 VALVE AND APPURTENANCE INSTALLATION

A. Valves:

1. Install with stems vertical when installation is horizontal.
2. Set valves on concrete thrust block having four (4) square feet of bearing area on undisturbed earth. Bag of Sak-crete or equal is acceptable.

B. Valve Boxes:

1. Center on valves.
2. Carefully tamp earth around each valve box to a distance of 4 feet on all sides of box or to undisturbed trench face, if less than 4 feet.

C. Hydrants:

1. Set hydrants where shown on plans in accordance with Standard Detail Drawings.
2. Install blocks and anchors in accordance with Standard Detail Drawings.
3. Set reference elevation 3 inches above existing grade or to elevation established by Engineer (not to exceed 6 inches).
4. Break-away flange to be either ground level where applicable or between 3 inches and 6 inches above curb as established by Engineer.

14.11 ACCEPTANCE TESTS FOR PRESSURE MAINS

A. Perform hydrostatic-pressure and leakage test.

1. I. Conform to AWWA C600 procedures.
 - a. As modified herein.
 - b. Shall apply to all pipe materials specified.
2. Perform after backfilling.

B. Test separately in segments between sectionalizing valves, between a sectionalizing valve and a test plug, or between test plugs.

1. Contractor to furnish and install test plugs, including all anchors, braces and other temporary or permanent devices to withstand hydrostatic pressure on plugs, at no additional cost to the Owner.
2. Contractor responsible for any damage to public or private property caused by failure of plugs.

C. Limit fill rate of line to available venting capacity. Fill rate shall be regulated to limit velocity in lines when flowing full to not more than 1 fps.

D. The City will make water for testing available to Contractor at nearest source.

E. Pressure Test:

1. Conduct at pressure at least 1.5 times the normal working pressure but not less than 150 psi.
2. Maintain pressure for a minimum of two (2) hours.
3. Test pressure shall not vary by more than 15 psi.

F. Leakage Test:

1. Conduct concurrently with the pressure test.
2. Maintain pressure for a minimum of one (1) hours.

3. Acceptable when leakage does not exceed that determined by the following formula:

$$L = \frac{ND\sqrt{P}}{7400}$$

L = Maximum permissible leakage in gallons per hour.

N = Number of pipe joints in segment under test.

D = Nominal internal diameter of pipe being tested in inches.

P = Average actual leakage test pressure, psi.

4. Repeat leakage test as necessary.
 - a. After location of leaks and repair or replacement of defective joints, pipe or fittings.
 - b. Until satisfactory performance of test.
 - c. At no increase in cost to the Owner.
- G. Refit and replace all pipe not meeting the leakage or pressure requirements. Repair clamp is not permitted.
- H. Repair all visible leaks regardless of the amount of leakage.
- I. The City or Engineer will observe all tests.

14.12 DISINFECTION OF PIPELINES FOR CONVEYING POTABLE WATER

- A. Contractor to provide all equipment and materials and perform in accordance with AWWA C601:
 1. As modified herein.
 2. Include chlorination and final flushing.
- B. Add chlorine to attain an initial concentration of 50mg/l chlorine with 10 mg/l remaining after 24 hours.
- C. Flush main until concentration is 2 mg/l or less prior to placing main in service.
- D. Obtain approval of materials and methods proposed for use.
- E. May be conducted in conjunction with acceptance tests.
- F. Dispose of flushing water without damage to public or private property.
- G. Repeat disinfection procedure should initial treatment fail to yield satisfactory results.
 1. At no additional cost to the Owner.
 2. Owner will provide water under terms specified for acceptance tests.
- H. Flush at rate sufficient to remove deposits and silt from pipe.
- I. Provide safe bacterial sample results before placing main into service. (Contract/Developer responsibility)

14.13 WATER MAINS & WASTEWATER FORCE MAINS MEASUREMENT

- A. Measure in linear feet by specified pipe size along the centerline of the pipe with no deduction for fittings and connections.
- B. Includes furnishing, handling, laying pipe materials and polyethylene wrapping as indicated; trench excavation, backfill and compaction; dewatering; sheeting, shoring and bracing; testing; disinfection as required; utilities repair and relocation; providing all labor, tools, equipment and miscellaneous associated work necessary to complete item.
- C. Payment: unit price per linear foot.

14.14 GATE VALVES

- A. Includes furnishing and placing valve, valve box; excavation, backfill and compaction; special blocking; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- B. Payment: unit price for each valve per size indicated.

14.15 HYDRANTS

- A. Includes furnishing and placing hydrant, hydrant gate valve; special anchored fittings; valve box; excavation, backfill, drainage fill, and compacting; providing all labor, equipment, tools and miscellaneous associated needed to complete item.
- B. Hydrant runs are measured from the centerline of the hydrant to the water main and will be measured and paid as water transmission lines.
- C. Payment: unit price for each hydrant.

14.16 BLOW-OFF VALVES

- A. Includes furnishing and placing valve, valve box; excavation, backfill and compaction; special blocking; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- B. Payment: unit price for each valve per size indicated.

14.17 AIR RELEASE VALVES

- A. Includes furnishing and placing valve, valve box; excavation, backfill and compaction; special blocking; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- B. Payment: unit price for each valve per size indicated.

14.18 PRESSURE REDUCING VALVES

- A. Includes furnishing and placing valve, valve box; excavation, backfill and compaction; special blocking; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- B. Payment: unit price for each valve per size indicated.

14.19 CORPORATION STOPS

- A. Includes furnishing and placing all materials; tapping the main; clamp saddles as required; excavation, backfill and compaction; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- B. Payment: unit price for each corporation stop by specified size.

14.20 CURB STOP AND BOX

- 1. Includes furnishing and placing the curb stop and box; excavation, backfill and compaction; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- 2. Payment: unit price for each curb stop by specified size.

14.21 WATER SERVICE LINES

- A. Measure in lineal feet by specified pipe size along centerline of pipe.
- B. Includes furnishing, handling, laying pipe materials; trench excavation, backfill and compaction; dewatering; testing; disinfection; utilities repair and relocation; fittings; providing all labor, tools, equipment and miscellaneous associated work necessary to complete item.
- C. Payment: unit price per lineal foot or as specified.

14.21 CUTTING INTO EXISTING MAINS

- A. Includes cutting existing mains; providing and installing required cutting in sleeves; trench excavation; backfill and compaction; dewatering; sheeting, shoring and bracing; testing; disinfection; providing all labor, tools, equipment and miscellaneous associated work necessary to complete item.
- B. Payment: unit price for each cutting-in operation.

**SECTION 15
SANITARY SEWER SPECIFICATIONS**

15.01 GENERAL (Related Requirements Specified Elsewhere)

- A. Trenching, Backfilling and Compacting: Section 12.
- B. Pipe Boring and Jacking: Section 13.

15.02 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Store materials to prevent physical damage.
- B. Protect materials during transportation and installation to avoid physical damage.

15.03 GENERAL DESCRIPTION OF WORK COVERED

Furnish and install all sewer pipe, fittings and structures, and accessories required for sanitary sewer construction as indicated.

15.04 QUALITY ASSURANCE

- A. Comply with latest published editions of American Society of Testing and Materials (ASTM) Standards:
 - 1. ASTM C478 - Concrete Pipe Manholes.
 - 2. ASTM D1784 - Rigid Poly (vinyl chloride) (PVC) Compounds and Chlorinated Poly (vinyl chloride) (CPVC) Compounds.
 - 3. ASTM D2321 - Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.
 - 4. ASTM D2564 - Solvent Cements for Poly Plastic Pipe and Fittings.
 - 5. ASTM D3212 - Joints for Drain and Sewer Plastic Pipes using Flexible Elastomeric Seals.
 - 6. ASTM D3034 Type PSM - PVC Sewer Pipe and Fittings.

15.05 PRODUCTS (General Requirements)

- A. Pipe furnished shall be PVC for sanitary sewer construction unless shown otherwise on plans or bid forms.
- B. All pipe shall be marked in accordance with applicable standard specification under which pipe is manufactured unless otherwise specified.

15.06 POLYVINYL CHLORIDE PLASTIC PIPE (PVC)

- A. Comply with ASTM D3034 for pipe using material conforming to ASTM D1784 for pipe and fittings.
- B. Use single elastomeric gasket push-on joints complying with ASTM D3212.
- C. Provide pipe and fittings with minimum SDR-35 dimension ratio.
- D. SDR 35 shall be used for service laterals.
- E. Pipe shall be color coded by one of the following methods:
 - 1. 3 green stripes (1/2 inch high) with permanent ink along the entire length with 3/4 inch letters every 21 inches along each stripe designating "Sewer".
 - 2. Use pipe pigment to color code pipe Green.

15.07 STRUCTURES AND PIPE ACCESSORIES

- A. Fittings:
1. Fittings allowed only on service laterals and drop manholes.
 2. Fittings shall equal or exceed quality of pipe.
- B. Manholes & Sections:
1. Construction shall be pre-cast reinforced concrete capable of sustaining an H-20 loading.
 2. Manholes shall be constructed in accordance with ASTM C-478, using Type II or Type III Portland Cement.
 3. Leakage shall not exceed one (1) gallon per day per vertical foot of manhole.
 4. Manholes shall have a minimum I.D. of 48 inches, unless otherwise noted on plans.
 5. Base section shall be monolithic to a point 6" above the crown of the incoming pipe with minimum 6" thick bottom section and 5" wall section and made in accordance with ASTM C-478.
 6. Pipe holes shall be properly located and either cast in place with appropriate boot or required shape, or core drilled after concrete has set. Minor field adjustments may be made with approval of City. The invert of the lowest pipe shall be a minimum of 4" above the inside floor of the base section.
 7. Cone (top) sections shall be eccentric narrowing from 48" to 24" I.D., unless otherwise noted on plans.
 8. Flat top sections shall be used in place of cone sections for manholes less than 5 feet deep. The 24" access hole shall be offset to allow easy access to steps (if used) and shall be reinforced to support an H-20 loading.
 9. Shallow manholes less than 3 feet deep shall be constructed according to a City detail drawing.
 10. The joints between sections shall be one of the following:
 - a. Lap joint design with the upper lip inside and suitably shaped to accommodate a bitumastic joint sealer.
 - b. "O" Ring.
 11. Pipe to manhole seals shall be made utilizing one of the following or approved equal.
 - a. Kore-N-Seal or, Lock-Joint, with stainless steel bands and screws.
 - b. A-LOK.
 12. Brick manholes shall only be used with consent of Engineer and the City.
- C. Manhole Accessories:
1. Manhole Lid and Cover:
 - a. Gray cast iron, with nominal opening of 24 inches.
 - b. Cover shall be embossed with "SANITARY SEWER" as shown on detail drawings.
 - c. The lifting holes shall not extend through cover.
 - d. Use Vulcan Model VM-37 or approved equal for lids not requiring bolting features.

- e. Use Vulcan Model VM-360WT or approved equal for bolted covers.
- f. Use Vulcan Model VM-50 or approved equal for specified flood areas.
- g. Use Certain Teed RE 85 R3 FD with Anti-theft locking key (RE 80 K9 FD) for lids requiring locking features.
- 2. Manhole Coating:
 - a. Apply two coats of a foundation coating or approved equal to the interior and to the exterior.
 - b. Apply one coat of Preco Epoxy coating to manholes receiving discharges of force mains.
 - c. Apply coatings according to manufacturer's recommendation.
- 3. Steps:
 - a. Shall be embedded in the concrete by the manufacturer.
 - b. Steps shall be reinforced ABS plastic, guaranteed for use in sewers.
- 4. Invert Channels

15.08 EXECUTION (General)

Provide all labor, equipment and materials and install all pipe, fitting, specials and appurtenances as indicated or specified.

15.09 PIPE INSTALLATION

A. Handling:

- 1. Handle in a manner to insure installation in sound and undamaged condition.
 - a. Do not drop or bump.
 - b. Use slings, lifting lugs, hooks and other devices designed to protect pipe, joint elements, and coatings.
- 2. Ship, move and store with provisions to prevent movement or shock contact with adjacent units.
- 3. Handle with equipment capable of work with adequate factor of safety against overturning or other unsafe procedures.

B. Installation:

- 1. Utilize equipment, methods, and materials insuring installation to lines and grades as indicated.
 - a. Do not lay on blocks unless pipe is to receive total concrete encasement.
 - b. Use laser or minimum of three (3) batter boards for control of line and grade.
- 2. Install pipe of size, material, strength class, and joint type with embedment shown for plan location.
- 3. In so far as possible, commence laying at downstream end of line and install pipe with bell ends in direction of laying. Sewer pipe shall have spigot ends in direction of flow. Obtain approval for deviations therefrom.

4. Clean interior of all pipe, fittings and joints prior to installation. Exclude entrance of foreign matter during discontinuance of installation.
 - a. Close open ends of pipe with snug fitting closures.
 - b. Do not let water fill trench. Include provisions to prevent flotation should water control measures prove inadequate.
 - c. Remove water, sand, mud, and other undesirable materials from trench before removal of end cap.
 5. Inspect pipe prior to installation to determine if any pipe defects are present.
 6. Brace or anchor as required to prevent displacement after establishing final position.
 7. Perform only when weather and trench conditions are suitable.
 8. Observe extra precaution when hazardous atmospheres might be encountered.
 9. Sanitary sewer relation to water mains:
 - a. Horizontal Separation:
 - (1) Maintain 10 feet horizontal separation whenever possible.
 - (2) When a 10-foot separation distance cannot be maintained, the sewer pipe shall be encased in a sleeve or in concrete.
 - b. Crossing Water Pipes:
 - (1) Sewers crossing under water mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the water main and the crown of the sewer pipe.
 - (2) Where the 18-inch separation cannot be maintained or when the sewer pipe passes over the water main, the crossing shall be arranged so that the sewer pipe joints and water main joints are equal distance from and 10 feet between any two joints, or the sewer pipe may be placed in a sleeve or encased in concrete for a distance of 10 feet from the point of crossing.
 10. Auger or jack casing in place where shown on plans.
 11. Maintain minimum of 30 inches of cover unless directed by Engineer.
 12. Encase sewer pipe in steel casing or use ductile iron pipe when crossing under pipe, conduit, or structure of 24 inches in diameter or greater when a 6-inch separation distance cannot be maintained. This protection shall extend a minimum of 5 feet beyond crossed structure.
- C. Jointing:
1. General Requirements:
 - a. Perform in accordance with manufacturer's recommendations.
 - b. Clean and lubricate all joint and gasket surfaces with lubricant recommended.
 - c. Utilize methods and equipment capable of fully homing or making up joints without damage.
 - d. Check joint opening and deflection for specification limits.
- D. Closure Pieces:
1. Connect two (2) segments of pipelines or a pipeline segment and existing structure with short sections of pipe fabricated for the purpose.

2. Observe specifications regarding location of joints, type of joints and pipe materials and strength classifications.
- E. Temporary Plugs:
1. Furnish and install temporary plugs at each end of work for removal by others when completed ahead of adjacent contract or where indicated.
 2. Remove from pipe laid under adjacent contract in order to complete pipe connection when work by other contractor is finished prior to work at connection point under this contract.
 3. Plugs:
 - a. Use test plugs as manufactured by pipe supplier, or
 - b. Fabricated by Contractor of substantially same construction.
 - c. Must be watertight against heads up to 20 feet of water.
 - d. Secure in place in a manner to facilitate removal when required to connect pipe.

15.10 MANHOLE INSTALLATION

- A. Pre-cast Bases:
1. Place on 6-inch layer of compacted sand, gravel or sandy material as approved by Engineer.
 2. Base shall be leveled prior to installation of manhole sections.
- B. Cast In Place Bases:
1. Cast on 6-inch layer of compacted sand, gravel or sandy material as approved by Engineer.
 2. Manhole bases and channel inverts may be constructed integrally.
- C. Manhole Sections:
1. Use pre-cast sections unless cast-in-place manholes approved by Engineer.
 2. Pre-cast sections may be installed after base concrete has attained 75% of design strength.
 3. Seals between manhole sections shall use one of the following or approved equal.
 - a. Bitumastic Seal (Kent No. 2, Ram Neck)
- D. Invert Channels:
1. Form invert channel as indicated.
 2. Alternate invert and shelf may be constructed of mortar over concrete fill with approval of Engineer.
 3. Make changes in direction of flow with smooth curves of as large a radius as size of manhole permits.
 4. Make changes in size and grade smoothly and uniformly.
 5. Slope floor of manhole adjacent to channels, toward the channels.
 6. Finish channel bottom smoothly without roughness, irregularity, or pockets.
 7. On straight through single pipe manholes, half sections of same pipe may be used with mortar and concrete with approval of Engineer.
 8. Precast inverts in base sections are acceptable.
- E. Pipe Connection to Manholes:

1. Make watertight.
 2. Use rubber gasket or other as approved by the City.
- F. Field applied coatings shall be applied after Engineer's approval of structure.

15.11 ACCEPTANCE TESTS FOR SEWER PIPELINES AND MANHOLES

A. Infiltration Testing:

1. General:
 - a. Maximum infiltration for each section of sewer pipe shall not exceed 100 gal/mile/day/ inch of pipe diameter.
 - b. Infiltration, exfiltration or air test may be used to prove compliance with infiltration requirement.
 - c. Acceptance of air test or exfiltration results will not preclude rejection of work if infiltration is measured and exceeds limitation.
 - d. Maximum infiltration for each manhole shall not exceed 1 gallon per vertical foot per 24 hours.
 - e. All tests to be witnessed by the City.
2. Air Test:
 - a. Furnish all facilities required including:
 - (1) Necessary piping connections.
 - (2) Test pumping equipment.
 - (3) Pressure gauges or manometers.
 - (4) Bulkheads .
 - (5) All miscellaneous items required.
 - b. Obtain approval from Engineer for equipment and methods proposed for use.
 - c. Test pipe in sections determined by Contractor and approved by Engineer.
 - d. Plug ends of line and cap or plug all connections to withstand internal test pressures.
 - e. Introduce low pressure air until internal air pressure is 4.0 psi greater than the average back pressure of ground water above the pipe. (Add 0.43 psi for each vertical foot of ground water over the top of pipe.)
 - f. Allow two (2) minutes for air pressure to stabilize.
 - g. Time required for pressure to decrease from 3.5 to 2.5 psi greater than average back pressure of any ground water above pipe shall not be less than time in the following table for given diameters.

Pipe Diameter	
<u>Inches</u>	<u>Minutes</u>
6	3.0
8	4.0
10	5.0
12	5.5
15	7.0

18	8.5
21	10.0
24	11.5
27	12.75
30	14.0
36	17.0

h. Repeat test as necessary after all leaks and defects have been repaired.

B. Exfiltration Test:

1. Furnish all facilities required to plug pipe sections and fill with water to attain a minimum elevation of water in upstream manhole two (2) feet higher than top of pipe in line being tested, or two (2) feet above existing ground water in trench, whichever is higher elevation.
2. Maintain water level in manhole at start of test period for one (1) hour.
3. Water added to maintain level (water lost) shall not exceed the following amounts:

a.	8"	pipe	-	0.63	gallon	per	100	feet.
b.	10"	pipe	-	0.79	gallon	per	100	feet.
c.	12"	pipe	-	0.95	gallon	per	100	feet.
d.	15"	pipe	-	1.19	gallon	per	100	feet.
e.	18"	pipe	-	1.42	gallon	per	100	feet.
f.	21"	pipe	-	1.66	gallon	per	100	feet.
g.	24"	pipe	-	1.90	gallon	per	100	feet.

Note: Allowable leakage may be increased by 5% for each foot of head above water elevation indicated above.

C. Infiltration Test:

1. May be used in lieu of air test or exfiltration test if Contractor can prove that ground water conditions are such that crown of pipe is covered with not less than two (2) feet of water at highest point in section being tested. The test head shall be maintained for not less than 24 hours before a weir measurement is made.
2. Infiltration shall be measured with weir at manhole and shall not exceed amounts stated in paragraph B, Exfiltration Test above.
3. Engineer will require exfiltration or air test if Contractor cannot prove to satisfaction of Engineer that ground water conditions are satisfactory.

15.12 SERVICE CONNECTIONS

A. Install service connections at each dwelling or business place, or as directed by Engineer.

B. Services wyes: install wyes, 4-inch branch diameter unless shown otherwise on plans. See standard detail, "Typical Service Connection".

- C. Risers: may be used with wyes for service connections where invert of sewer is seven (7) feet or more below ground surface or where shown on plans. Terminate each connection as shown on plans or as directed by Engineer.
- D. Place suitable stopper in end of connection.
- E. Backfill trench only after recording exact location and depth of service connection.
- F. Street crossings shall have a minimum of two (2) feet of cover to subgrade unless approved by Engineer.
- G. Drive a 1/2-inch metal rebar adjacent to each service connection, with top of post one (1) foot below ground surface.

15.13 CONNECTIONS TO EXISTING DRAINS AND SEWER SYSTEM

- A. Connect existing sanitary service drains which cross new sewer line through equal sized wye.
- B. Connect no storm drains to new sewers.
- C. Connections to Existing Manholes:
 - 1. Insert new sewer pipe flush with inside of manhole.
 - 2. Seal new pipe in place to be watertight.
 - 3. Reconstruct manhole bottom to suit new connection.
 - 4. All debris to be removed.
- D. Connections to Existing Sewer:
 - 1. Build new manhole around existing sewer.
 - 2. Break out existing sewer inside of manhole and construct bottom to suit new connection.

15.14 SEWER PIPE MEASUREMENT & PAYMENT

- A. Measure in linear feet by specified pipe size along centerline of pipe with no deduction for manholes, wye connections or riser connections.
- B. Includes furnishing handling, laying pipe materials and specified bedding materials; trench excavation, backfill and compaction; dewatering; sheeting, shoring and bracing; testing; utilities repair and relocation; providing all labor, tools, equipment and miscellaneous associated work necessary to complete item.
- C. Payment: unit price per linear foot.

15.15 MANHOLES MEASUREMENT & PAYMENT

- A. Includes furnishing and placing all pre-cast and cast in place materials; excavation, backfill and compaction; frame and lid; stub pipes; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.
- B. Payment: unit price for each manhole.

15.16 WYE CONNECTIONS PAYMENT

- A. Measure each as installed by nominal pipe size.

B. Includes additional cost of wye over straight pipe, joints, stoppers and one 1/8 bend sweep.

C. Payment: unit price per each clean out.

15.17 RISER CONNECTIONS PAYMENT

A. Measure each connection installed by nominal pipe size.

B. Includes furnishing and installing wye or tee connection, elbows, concrete work, extra excavation, backfilling and compaction, stoppers and providing labor, equipment and miscellaneous associated work needed to complete item. Does not include straight pipe used for riser.

C. Payment: unit price per each.

15.18 RISER PIPE PAYMENT

A. Measure in lineal feet of straight pipe from fitting joints at upper and lower extreme of riser.

B. Includes furnishing and installing pipe materials, bracing; supports; excavation, backfill and compaction; providing labor, equipment and miscellaneous associated work needed to complete item.

C. Payment: unit price per lineal foot.

15.19 SERVICE CONNECTION LATERAL PIPE PAYMENT

A. Measure in lineal feet by nominal pipe size as installed.

B. Includes furnishing, handling, laying pipe materials; trench excavation, backfill and compaction; dewatering; utilities repair; providing all labor, equipment and miscellaneous associated work needed to complete item.

C. Payment: unit price per lineal foot.

15.20 CLEANOUTS/ LAMPHOLES PAYMENT

Includes furnishing and placing all clean outs; excavation, backfill and compaction; stub pipe; frame and lid; providing all labor, equipment, tools and miscellaneous associated work needed to complete item.

15.21 AS-BUILT RECORDS

A complete set of as-built records shall be kept by the Contractor. These records shall show all items of construction and equipment which differ in size, shape or location from those shown on the contract drawings, also any additional work, existing features or utilities revealed by construction work which are not shown on the contract drawings. These reports shall be kept up-to-date daily. They may be kept on a marked set of contract drawings to be furnished by the Contractor for this purpose, or in any other form which is approved prior to the beginning of the work. They shall be available at all times during construction for reference by the Engineer and Owner, and shall be delivered to the Engineer upon completion of the work.

SECTION 16 LIFT STATION SPECIFICATIONS

16.01 Scope/General

1. The work included in this section consists of furnishing and installing all pumps, guide rail systems, float level controls, and necessary piping and fittings and other appurtenances necessary to complete the lift station wet well and pumps/controls installation as shown on the plans and specified herein.

2. The excavation and backfilling for pipelines and concrete structures shall be performed in accordance with Section 12 of the Specifications, except as may be modified herein. Excavation and backfilling for pipe trenches and wet well and valve box structures will be considered as an incidental part of the work and no specific payment will be allowed therefor.

3. The lift station shall be located on property which shall be dedicated to the City of Crestview for perpetual ownership and maintenance. The minimum property size shall be 20' x 20' and shall be fenced, as described below. Larger properties may be required, depending on the size of the necessary wet well, valve box, and other facilities.

4. The City of Crestview requires that all structures (wet well and valve box) be fabricated of fiberglass or concrete with (Spectra-Shield) corrosion resistant coating. Both structures shall carry a written 20-year warranty.

16.02 Valve Housing Box

1. The exterior of the valve housing box shall be waterproofed to prevent ground water infiltration.

2. The interior of the valve housing box shall have a smooth finish.

3. There shall be a 2" drain pipe with swing check valve, from the valve housing box into the wet well.

4. There shall be a minimum of 12" clearance on all sides of valves and fittings.

5. The check valves shall be swing-check, of the external spring and lever type; gate valves shall be standard resilient-seat wedge type.

6. All exposed hardware shall be of corrosion resistant, stainless steel.

7. The access hatches shall be of aluminum double-door type. A minimum of 4'x 4' overall, centered on the box.

8. All valve housing boxes shall have a solid bottom.

9. There shall be no type of plug valve used.

10. On emergency by-pass valve, an Ever-Tite, Quick Coupling, Part "F", male adaptor with dust cap, 6" aluminum, shall be used. Dust cap shall be tapped with ¼" pet cock so as to allow bleed-off of any accumulated pressure prior to removing cap

16.03 Wet Well

1. There shall be 3/8" stainless steel pull cables fastened with stainless clamps to the lift rings on each pump. The top end of the cable shall have a minimum of 4" loop fastened with stainless steel clamps.
2. All lift eyes within the interior of wet well shall be cut off flush with the interior surface.
3. Stainless steel pipe with a flange on each end shall be used in the wet well for discharge piping.
4. Stainless steel pipe with a flange on each end shall be used from the wet well into the valve box, and out of the valve box.
5. Kicker board brackets shall be made of aluminum and secured to wall of wet well with stainless steel hardware; Kicker board shall be made of aluminum or stainless steel – no wood allowed.
6. Discharge piping in wet well shall have air-release valves (Waterman or equal) installed at the top; valves to be located in the upper discharge 90° elbows and connected with stainless steel hardware or a stainless steel nipple must be welded to the elbow to accept the valve.
7. Hatch to wet well shall have double doors, 4'x 4' in size.
8. Wet well shall be 6' in diameter or larger, or 6'x 6' square or larger.
9. Wet well shall be either:
 - a. Pre-cast Reinforced Concrete with inside corrosion resistant (Spectra-Shield) coating, or
 - b. Fiberglass construction.
10. Bottom to have fillet around corners (grouted all around).
11. All concrete shall be 3,000 psi strength and reinforcing steel shall be Grade 60.
12. Steps are not required inside the wet well.
13. The low water level shall be designed to cover the entire pump and motor assembly, to protect it from corrosion and help keep the motor cool.

16.04 Plates, Sheets and Shapes

1. Aluminum Plates, Sheets and Shapes:
 - a. All aluminum plates and shapes shall be of Type AA 5052 alloy conforming to applicable requirements of ATM Designation B 209-67, (Latest Revision).
 - b. Aluminum extended shapes shall be 6061 or 6062 alloy conforming to ATM B 221-67, (Latest Revision).
 - c. All surfaces in contact with concrete shall be coated with Bitumastic (Koppers 50 or equal).
2. Stainless Steel Plates, Sheets and Shapes:

- a. All stainless steel plates and sheets shall be Type 304 alloy conforming to the applicable requirements of ASTM Designation A-182, (Latest Revision).
 - b. Stainless steel pipe shall be schedule 5, Type 304 alloy conforming to the applicable requirements of ASTM-312, (Latest Revision).
3. Fastenings:
- a. Fasteners, insofar as practicable, shall be concealed. Where exposed, fastening shall be of the same material, color and finish as associated metal, where not indicated otherwise and countersunk wherever possible.
 - b. All hardware used to assemble cast iron fittings shall be stainless steel.
 - c. All fastenings coming into contact with aluminum and/or submerged shall be of stainless steel.

16.05 Other Requirements

The below items shall be used with 3", 4", 6", 8" and 12" submersible non-clog sewage pumps, including the Hydromatic S4F:

1. Hydraulic Sealing Flange: A hydraulically operated sealing flange, complete with Buna N rubber diaphragm type sealing gasket, shall be mounted on each pump discharge. The diaphragm shall be held in place by a 300 series stainless steel ring with stainless steel fasteners.

2. Guide Rail. The guide rails used to direct the pump in proper alignment with the stationary discharge piping shall be of a dual rail design. The rail shall be a 2" stainless steel pipe and positioned on the centerline of the pump to each side so that no weight of the pump bears on either of the two guide rails at any time. The guide rails shall serve truly as a guide rail. Units which do not have the guide rails positioned on the centerline of the pump with off-centered weight distribution shall not be considered as equal nor acceptable as a binding action on the guide rails is possible, making removal and/or reinstallation much more difficult.

3. Carrier Guide Bracket. A sliding guide bracket shall be attached to the pump. The sliding carrier guide bracket shall be stainless steel. The carrier shall be mounted on the pump do lifting is done from the carrier and no strain is placed on the pump or guide rails. Fasteners shall be 300 series stainless steel. Carrier shall be designed to lift from centered loop.

4. Discharge Base Elbow with Base Plate. A discharge elbow shall be furnished for each pump. The discharge base elbow shall be attached to a flat steel fabricated base plate which rests squarely on the wet well floor. The flat base plate shall assure the pump has a smooth surface on which to rest when lowered into position. The base plate shall include a leveling bolt adjustment as well as adjustable guide rail supports which hold the guide rail pipes at the bottom. The pump discharge with hydraulic sealing flange shall align with the base elbow of the base plate assembly. The sealing face of the base discharge elbow shall be smooth and shall be heavily

coated with zinc spray to provide a smooth corrosion resistant and abrasion resistant surface. All fasteners shall be 300 series stainless steel.

5. Access Frame and Hatch. An access frame assembly shall be supplied with separate hinged cover for removal of each pump. Access frame and hatch shall be either corrosion resistant or coated with a corrosion resistant coating. Upper rail guide brackets shall be attached to the access frame as well as the float switch holding bracket. Cover shall be provided with lifting handle, safety latch to hold cover in open position and locking hasp.

6. Float-operated mercury switches to operate duplex submersible pumps with a minimum of fifty (50) feet of cable shall be provided.

7. Float Mounting Bracket. A float mounting bracket shall be provided. Float mounting bracket shall provide cord grips to hold the level control cords and allow adjustment of level controls to desired pumping alarm levels. Continuous cords are to run from pump(s) and level controls to control panel. No splices shall be made in wiring. Float mounting bracket shall be fabricated from stainless steel for corrosion resistance. Float mounting bracket shall attach to access frame with 300 series stainless steel fasteners.

8. Lifting Chain/Cable. Each pumping unit shall be provided with a lifting chain or cable. The lifting chain or cable shall be of sufficient length to extend from the pumping unit at one end to the top of the wet well at the other end. The access frame shall provide a hook to attach the lifting chain or cable (minimum 1/4" stainless steel) when not in use. The lifting chain or lifting cable shall be sized according to the pump weight.

9. Piping. Piping shall include two (2) swing check valves with outside lever and spring, and three (3) gate valves. Piping shall include all necessary elbows and tees. All piping through lift station shall be stainless steel for corrosion resistance. Where piping passes through a wall, a stainless steel sleeve large enough for the flange of the discharge piping to pass through shall be installed and shall be water-tight. Coordinate with Public Services Department for specific piping arrangement and details.

10. Pump/Motor Power Cords. Cord shall be flexible and serviceable under heavy use conditions and shall meet NEC standards for the installation; ground fault interruption protection shall be provided for the cable; cord terminal fittings shall be corrosion-resistant and provide moisture protection for the cable, shall have strain-relief appurtenances, and shall be constructed to facilitate field-connecting.

16.06 Submersible Pumping Equipment

1. Pumps.

- a. Pumps shall be submersible, non-clog, centrifugal, heavy duty, recessed impeller type units suitable for sewage application.
- b. Totally submersible design, with all electrical parts housed in an oil-filled cast-iron, watertight enclosure. Thrust and radial bearings shall be of the ball type. The motor shaft shall be stainless steel and designed for extremely difficult sewage pumping service. The

motor shall be designed to operate on 3-phase, 60-cycle, 240-volt alternating current and shall be non-overloading at all points on the pump curve.

2. Manufacturing.

The duplex submersible pumps shall be as manufactured by Hydromatic, Wilo-EMU (formerly Davis-EMU), Flygt, or KSB.

3. Submittal Data.

The Contractor shall provide three (3) copies of the following submittal data for each item of equipment to the Engineer:

- a. Certified Dimensional Drawing of Pump/Motor Units.
- b. Typical Performance Curve of Pumps.
- c. Pictorial and Schematic Wiring Diagram.
- d. Parts List and Instructional Prints.

4. Pump Characteristics:

Pumps shall meet the following:

- a. Delivery at guarantee point; TDH at guarantee point; maximum rotation speed; (see plans for specific information)
- b. Pump to pass minimum sphere of 3"; minimum motor size is 5 Hp.
- c. Minimum pump efficiency shall be 50%.

5. Warranty.

The pump manufacturer shall warrant to the City of Crestview, for permanent installation in municipal sewage service, the submersible pump and motor against defects in materials and workmanship for a period of 5 years, including normal wear and tear to the following parts: mechanical seals, bearings, shafts, motor electrical cables, and motor stators.

16.07 Controls

1. Automatic control of the duplex submersible pumps shall be by means of a system of mercury float switches. The switch shall be capable of starting and stopping the pumps at an adjustable differential starting the lead pump first and then the lag pump if wet well level continues to rise, running both pumps simultaneously and automatic alternation of the lead and lag pumps.

2. The controls shall be housed in a stainless steel NEMA 4 enclosure with stainless steel pedestal stand and with pad lock hasp; Pedestal shall have 12" high pull box with bug-screened vents, a pad-lockable NEMA 3R junction box with engraved labels, terminal strips, and three point latch; wires shall run up from the pull box into the junction box through compression fittings sized to securely seal out gasses from entering the junction box. Stainless steel uni-struts shall be mounted on the back of the panel and pedestal for extra support. The enclosure shall include:

- a. Dead front enclosure made of aluminum or stainless steel. No Cutler-Hammer products allowed.

- b. Two (2) motor starters of adequate size.
- c. 120-volt, 20-amp duplex receptacle with ground fault interruption (GFI) protection.
- d. Three (3) circuit breakers, one for each pump and one for the receptacle and controls.
- e. Two (2) HOA hand-off automatic switches.
- f. Three (3) overload relays and heaters per pump.
- g. Pump alternating circuit.
- h. 120 volt AC control circuit voltage.
- i. Two (2) run lights (green and yellow); run lights shall be clearly labeled.
- j. Two (2) moisture detection relays and red warning lights.
- k. Two (2) 0 to 99,999.9 hour elapsed time meters, non-resettable.
- l. Phase failure relay required (plug-in type, 8 pin).
- m. A minimum of 12"X12" shall be vacant on inside of sub panel for additional equipment.
- n. A high level float switch will be provided and wired to a terminal strip in the panel.
- o. A 110-volt exterior flood light, 175 watt rating, with remote switch inside panel, shall be mounted beside panel.
- p. One (1) lightning/surge protector.

2. Alternate Control Systems.

Alternate control systems and arrangements will be considered provided that all functional characteristics are met.

16.08 Electrical Equipment

1. General.

All electrical equipment shall be installed in accordance with NEC, as last revised. All materials used shall be new and unused, of the highest quality, and of proper type for the use intended. Where applicable, all material shall carry the approval of the Underwriters' Laboratory. Substitutes which tend to lower the quality of the work will not be permitted. The project is to result in a complete and operable Lift Station. Any items not specified, but normally included in such installations shall be furnished and installed regardless of omissions from specifications. However, specified omissions are not affected by this requirement. The electrical service and starting gear shall be mounted on a suitably sized panel board constructed as detailed on the construction plans. All details of service characteristics shall be verified with the local utility.

2. Materials.

- a. Conduit and conduit fittings shall be either aluminum or PVC; Electrical connectors and couplings shall be of the approved water-tight type.

- b. Wire and cable shall be properly sized to carry the anticipated loading. Insulation, unless otherwise noted, shall be type RHW neoprene jacket for all sizes.
 - c. Conduit into wet well shall be large enough for easy removal of pump leads. There shall be one conduit for each pump, plus one for float switch cables, and one extra.
3. Installation.
- a. All conduit runs, whether or not terminated in boxes, shall be capped or plugged to prevent the entrance of foreign objects before wires are pulled. Conduit projecting into the wet well shall be packed with mastic after the wires are pulled to prevent corrosive gases from reaching the control panel.
 - b. Outlets, switches, boxes, etc., shall be rigidly secured and located properly with respect to easy accessibility.
 - c. No electrical splices allowed except in control panel.
 - d. All work shall be tested and subject to final approval of the Engineer.
4. Stand-by Facilities.

A double throw safety switch with attached emergency generator receptacle shall be installed between the main disconnect and the controller. The unit shall be housed in a NEMA rated steel enclosure. The receptacle shall be a Crouse-Hinds Model #5, Type AR-1048, rated for 100 Amp Service.

5. Lightning Arrestor.

The lightning arrestor for the main service entrance shall be Joshlan or approved equal.

6. Main Disconnect.

The main disconnect safety switch shall be an enclosed service entrance, weather-proof enclosure, 4 wire S/N, 240 Volt AC of sufficient size to carry both pumps operating simultaneously.

16.09 Emergency Station Requirements

1. General.

Lift stations shall be provided with the necessary facilities for the City's emergency pumping equipment to operate to bypass the station pumps and transmit the flow through the station force main to downstream and with facilities for portable generator connection. Larger stations shall provide stand-by power on the site, as follows:

- a. Lift stations which serve as Master Lift Stations, i.e. stations which receive the pumped flow from one or more other lift stations, shall provide stand-by power equipment (generator) on the site.
- b. Lift stations serving developments with over 200 gpm design peak flow shall provide stand-by power equipment (generator) on the site.
- c. Lift stations with a large design head such that the horsepower requirements are greater than 15 Hp per pump shall provide stand-by power equipment (generator) on the site.

The City will review the plans for each lift station and determine if the above requirements have been met. Generators shall be shown on a Lift Station Site Plan at a scale of 1"= 20' for review by the City to ensure coordination of all elements on the lift station site. The L.S. Site Plan shall show contours – existing and proposed.

2. Foundation.

Generators shall be mounted on a concrete pad of sufficient thickness and shall be protected against vibration; details of the concrete shall be shown in the plans.

3. Generators provided shall have sufficient capacity to start up and maintain the total rated running capacity of the lift station; generator and transfer switch to be housed in NEMA 3X enclosures; fuel tank to be adequate for 24 hour run time.

4. All station emergency facilities shall be compatible with the City's temporary-service power generating and pumping equipment.

16.10 General Finishing Requirements

1. As-Built Records.

A complete set of as-built records shall be kept by the contractor. These records shall show all items of construction and equipment which differ in size, shape or location from those shown on the contract drawings, also any additional work, existing features or utilities revealed by construction work which are not shown on the contract drawings. These reports shall be kept up-to-date daily. They may be kept on a marked set of contract drawings to be furnished by the contractor for this purpose, or in any other form which is approved prior to the beginning of the work. They shall be available at all times during construction for reference by the engineer and owner, and shall be delivered to the engineer upon completion of the work.

2. Nameplate.

Each piece of mechanical equipment and motors shall be provided with a substantial nameplate of non-corrodible metal, securely fastened in place, and clearly and permanently inscribed with the manufacturer's name, model, or type designation, serial number, rated capacity, electrical or other power characteristics, and other appropriate nameplate data. Spare nameplates shall be provided for each lift station and placed inside each control panel (one nameplate for each model pump).

3. Lubricants.

All the equipment shall be delivered fully lubricated with oil and/or grease insofar as possible. If any point cannot be so serviced, it shall be clearly marked to the effect that it is not lubricated and requires servicing prior to operation. An adequate supply of the proper lubricant, with the instructions for its application shall be supplied with the equipment for each point not lubricated prior to shipment. The contractor shall also provide the owner with a sufficient amount of proper lubricants for one complete change of lubricant for all equipment furnished.

4. Operating Manuals and Parts List.

The contractor shall furnish four (4) complete bound sets of literature giving the following information to the City:

- a. Clear and concise instructions for operations, adjustment and lubrication and other maintenance of the equipment. These instructions shall include a complete lubrication chart.
- b. A list of all parts of the equipment with catalog number and other data necessary for ordering replacement parts.
- c. Such instructions and parts listed shall have been prepared specifically for the model and type of equipment furnished and shall not refer to other models and types of similar equipment.

5. Fencing.

The lift station site shall be fully enclosed by fencing, 6 feet in height, with a 10' wide gate (clear opening = 10') for vehicular access. Fence specifications may vary, subject to the requirements of the developer and the Public Services Department.

6. Alarms.

- a. One high-level red alarm light, to be "off" at all times except under alarm conditions (High Level Alarm) - when light shall glow bright red and flash; battery back-up shall be provided for the light.
- b. Telemetry Alarm System shall be provided at the station; provide Bosch/Radionics D7212 system with digital dialer (if no phone line available); the system shall engage under the following conditions:
 - Power failure
 - Lag pump On
 - Pump failure
 - High level alarm
 - Unauthorized entry

7. Site Stabilization.

The lift station site shall be grassed, except for vehicle movement areas – which shall be stabilized via gravel surfacing (3" thickness minimum, angular stone).

8. Property Survey: a survey will be required on the lift station site, after construction is complete, to ensure the site is properly located in the development.

9. Water service: a ¾" water service with RPZ backflow preventer and ¾" brass hose bibb shall be provided, with fiberglass enclosure for freeze protection.

10. A concrete pad 8" thick with ½" rebar shall be poured adjacent to the wet well top which is large enough to support the control panel and contain the backflow preventer facility.

16.11 Start-up & Testing

1. Upon completion of all station equipment installation, Contractor shall contact the Engineer and schedule a pump station start-up event. This event shall be attended by the following parties:

- Owner (City)
- Engineer
- Contractor
- Pump Manufacturer/ Supplier

2. Start-up shall be in accordance with the pump manufacturer's instructions.

3. A standard pump test shall be performed using the timed drawdown method on both pumps separately to verify pumping rates; results shall be recorded and provided to the Owner and Engineer.

4. As part of the start-up activities, the force main discharge shall be verified by observation at the discharge end of the line.

5. During start-up, pressure gauges shall be installed on the pump discharge lines (in the valve pit) to monitor the line pressures for initial pump evaluation. It shall be the responsibility of the Contractor to provide these gauges and their installation.

6. Operation & Maintenance manuals for the pumps, float controls, and control panel equipment shall be submitted to the Engineer immediately following start-up (4 copies), as stated in 16.10 above. These shall contain also the above listed items which were submitted prior to the station installation, updated as required during the installation process.

SECTION 23 CONCRETE WORK

23.1 DESCRIPTION: This Section includes Portland Cement concrete pavement, including sidewalks and curbs.

23.2 APPLICABLE REFERENCES: The publications listed below are to be considered a part of this specification to the extent referenced. The publications shall be the most recent issue as referred to in the text by the basic designation only. The following are minimum requirements, to be superseded by local, state, and/or federal codes and ordinances. All concrete construction shall be in accordance with applicable sections of the Florida Department of Transportation Specifications for Road and Bridge Construction, unless modified herein.

23.2.1 Florida Department of Transportation Specifications:

- Section 346: Portland Cement Concrete
- Section 350: Cement Concrete Pavement
- Section 520: Concrete Gutter, Curb Elements and Traffic Separator
- Section 931: Metal Accessory Materials for Concrete Pavement and Concrete Structures

23.2.2. American Society of Testing and Materials (ASTM) Publications:

- A-615: Deformed and Plain Billet Steel Bars for Concrete
- C-172: Sampling Fresh Concrete
- C-143: Slump Testing
- C-31: Compression Test Specimens
- C-39: Compressive Strength Tests
- D-1557: Moisture-Density Relations of Soils and Soil-Aggregate
- D-1751: Preformed Expansion Joint filler for Concrete Paving and Structural Construction.
(Non-extruding and Resilient Bituminous Types)

23.3 MATERIALS

23.3.1 Forms:

- A. Steel, wood, or other suitable material of size and strength to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and deflects.
- B. Use flexible spring steel forms or laminated boards to form radius bends as required.

23.3.2 Form Release Agent:

Coat forms with non-staining type coating that will not discolor or deface surface of concrete.

23.3.3 Welded Wire Mesh:

Welded plain cold-drawn steel wire fabric furnished in flat sheets, not rails, unless approved by Engineer. Welded wire mesh shall be free from rust, dirt, foreign matter and shall not be stored directly on the ground. Wire fabric shall comply with Section 931 of the Florida DOT Specifications.

23.3.4 Reinforcing Bars:

Deformed steel bars, ASTM A-615, Grade 60. Reinforcing bars shall be free from rust, dirt, foreign matter and shall not be stored directly on the ground. Deformed steel bars shall comply with Section 931 of the Florida DOT Specifications.

23.3.5 Concrete Materials:

Comply with requirements of Sections 346 and 350 of the Florida DOT Specifications for concrete materials, admixture, bonding materials, curing materials, and others as required.

23.3.6 Expansion Joint Material (Joint Filler):

Resilient pre-molded rubber material complying with ASTM D-1751 and ASTM D-1752. Joint fillers (materials) shall comply with Section 932 of the Florida DOT Specifications. Use REFLEX Rubber Expansion Joint material or approved equal.

23.4 CONCRETE MIXING

23.4.1 Design mix to produce normal weight concrete consisting of Portland Cement, aggregate, water-reducing or high-range water reducing admixture (super-plasticizer), air-entraining admixture, and water to produce the following properties:

1. Compressive Strength: Minimum 3,000 psi for curb and walkways and 4,000 psi for pavement at 28 days. In addition, concrete pavement shall have a minimum modulus of rupture of 600 psi.
2. Slump Range: 3" to 5"
3. Air Content: 3% to 6%

23.5 SURFACE PREPARATION

Remove loose material from compacted subgrade surface immediately before placing concrete. Compact the top 12 inches of subgrade, beneath concrete areas other than pavements, to a minimum density of 95% of Modified Proctor Test (ASTM D1557) density. In pavement areas,

compact top 12 inches of subgrade to minimum of 98% of Modified Proctor Test. Proof-roll prepared subgrade surface to check for unsuitable areas, on paving projects. The paving work shall begin after the unsuitable areas have been corrected and are ready to receive paving. Compaction testing of the subgrade/base material shall be completed prior to the placement of paving.

23.6 CONCRETE PLACEMENT

23.6.1 Form Construction:

1. Set forms to required grades and lines, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
2. Check completed form work for grade and alignment to following tolerances:
 - a. Top of forms not more than 1/8" - in 10'-0".
 - b. Vertical face on longitudinal axis, not more than 1/4" in 10'-0".
3. Clean forms after each use and coat with form release agent as often as required to ensure separation from concrete without damage.

23.6.2 Reinforcement

Locate, place, and support reinforcement to ensure compliance with plans. Sidewalk reinforcing shall be Welded Wire Fabric, 6"x 6" W1.4 x W1.4, and placed/pulled up so as to be in the middle of the walk section (depth).

23.6.3 Concrete Placement:

1. Comply with requirements of Sections 345, 350, and 520 of Florida DOT Specifications for mixing and placing concrete.
2. Do not place concrete until subgrade material and forms have been checked for line and grade. Moisten subgrade if required to provide uniform dampened condition at time concrete is placed. Concrete shall not be placed around manholes or other structures until they are at the required finished elevation and alignment.
3. Place concrete using methods which prevent segregation of the mix. Consolidate concrete along face of forms with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.

4. Deposit and spread concrete in one continuous operation between transverse joints as far as possible; if interrupted for more than 1/2 hour, install construction joint.

23.7 TESTING

(a) All concrete testing shall be done by an Independent Testing Laboratory engaged by the City of Crestview; however, the Contractor shall coordinate testing with the specified laboratory. All reports shall be signed by an Engineer registered as a Professional Engineer in the State of Florida. A report shall be made of each test and a copy provided, in writing, to the Contractor, City Engineer, and concrete supplier within 24 hours of the testing. Each report, in addition to the test information, will state the project name, location of pour, and the time and date the test was taken.

(b) Slump Test: One test shall be done, at the point of placement, for each compressive strength test done, but no less than one test for each day's pour of each type of concrete; additional tests will be required when the consistency of concrete changes.

(c) Compression Test Specimens: One set of three (3) standard cylinders shall be provided for testing for each compressive strength test specified; cylinders shall be molded and stored for laboratory-cured test specimens, except where field-cured specimens are required.

(d) Compressive Strength Tests: The following tests shall be performed: One set (test) for each day's pour exceeding 10 cubic yards but less than 50 cubic yards, plus one set (test) for each additional 50 cubic yards of concrete poured; test two specimens at 28 days and retain one specimen in reserve, for earlier or later testing if required.

(e) The Contractor shall replace materials removed for testing purposes. If any work or materials fail to meet the requirements set forth in the plans and specifications, Contractor shall pay for retesting of same.

(f) Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection of the concrete work.

23.8 CURBS AND GUTTERS

Automated curb machine may be used for curb and gutter placement at Contractor's option. Machine placement must produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not acceptable, remove and replace with formed concrete, as specified.

23.9 JOINT CONSTRUCTION

23.8.1. Construct expansion, weakened-plane (contraction), and construction joints true-to-line with face perpendicular to surface of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.

1. Provide weakened-plane (contraction) joints, sectioning concrete into areas at 10'-0" O.C. maximum each way.
2. Sidewalks shall have contraction joints at 5'-0" O.C.
3. Construct weakened-plane joints for depth equal to at least 1/3 concrete thickness.

23.8.2 Tooled Joints

1. Form weakened-plane joints in fresh concrete by grooving top portion with recommended cutting tool and finishing edges with jointer.

23.8.3 Construction Joints:

Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than 1/2 hour, unless paving terminates at isolation joints.

1. Provide pre-formed galvanized steel or plastic keyway-section forms or bulkhead forms with keys, unless indicated otherwise. Embed keys at least 1-1/2 inches into concrete.
2. Continue reinforcement across construction joints unless indicated otherwise.

23.8.4 Expansion Joints:

1. Provide pre-molded joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks, and other fixed objects, and at all horizontal curve radius points in the curb alignment.
2. Locate expansion joints at 50' O.C. maximum for each pavement lane or for curb and gutter construction, where no other expansion joints are provided.
3. Locate expansion joints at 40' O.C. maximum for walkways.

23.8.5 Joint Fillers

1. Extend joint fillers full-width and depth of joint and not less than 1/2" or more than 1" below finished surface where joint sealer is indicated.

2. Furnish joint filler in one-piece lengths for full width being placed; where more than one length is required, lace or dip joint filler sections together.

23.8.6 Joint Sealants

1. Exterior pavement joint sealant shall be composed of a non-priming, pourable, self-leveling type polyurethane sealant, such as grey shep-calk or approved equal, suitable for use in pavements and sidewalks.

23.10 CONCRETE FINISHING

1. After striking-off and consolidating concrete, smooth surface by screeding and floating. Adjust floating to compact surface and produce uniform texture.

a. After floating, test surface for trueness with 10'-0" straightedge (maximum deviation of ¼ inch). Distribute concrete as required to remove surface irregularities, and re-float repaired areas to provide a continuous smooth finish.

2. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to ¼ " radius. Eliminate tool marks on concrete surface.

3. After completion of floating and troweling, when excess moisture on the surface has disappeared, complete surface finishing as follows:

a. Curbs, Gutters, and Walks:

Broom finish by drawing a fine-haired broom across concrete surface, perpendicular to the line of traffic. Repeat operation if required to provide fine line texture.

b. Normal Slab Surfaces:

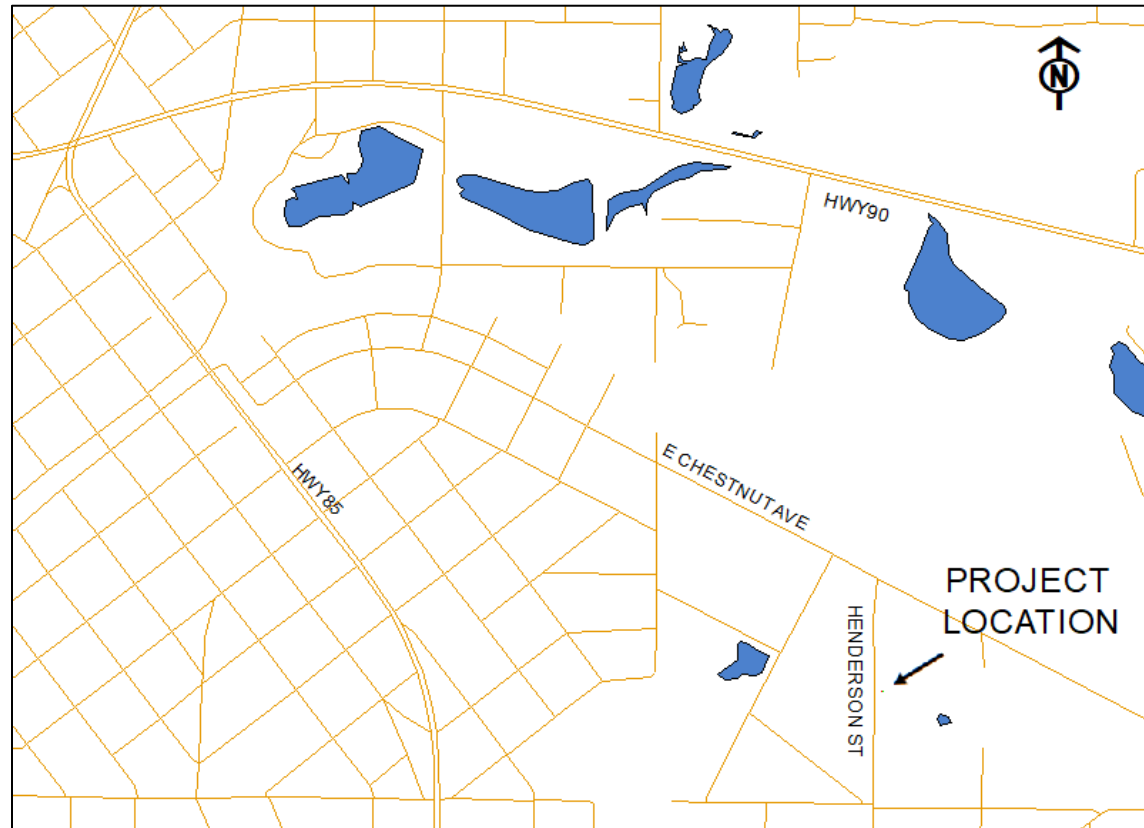
Provide coarse, non-slip finish by scoring surface with a stiff-bristled broom, perpendicular to the line of traffic where possible.

LIFT STATION #9

RENOVATION

CONSTRUCTION PLANS
CITY OF CRESTVIEW, FLORIDA

AUGUST 2019



VINCINITY MAP

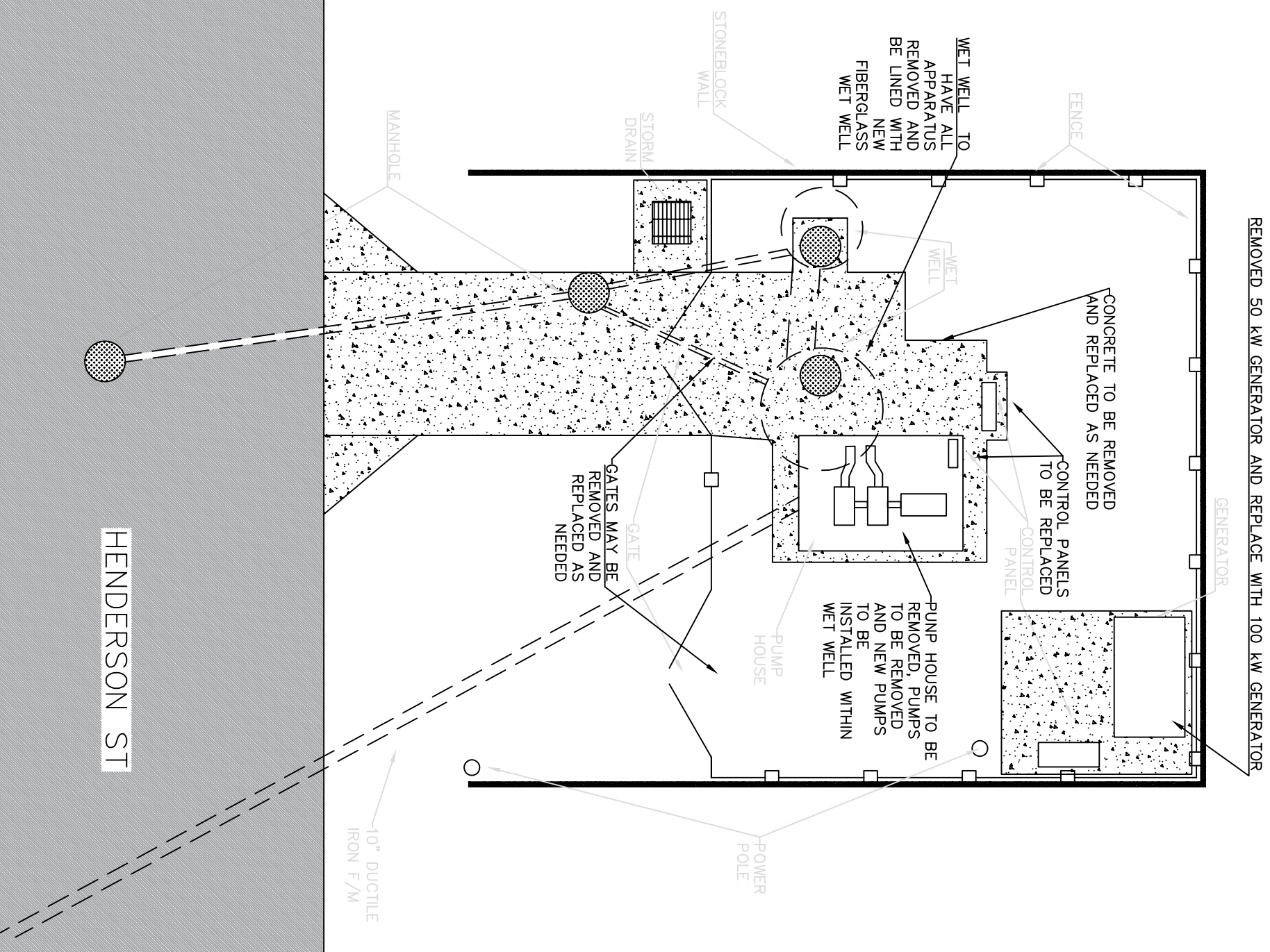
DRAWING INDEX

DWG. NO	DESCRIPTION
1	COVER SHEET
2	SITE PLAN
3	LIFT STATION DETAIL

Prepared by:
CITY OF CRESTVIEW
PUBLIC SERVICES DEPARTMENT

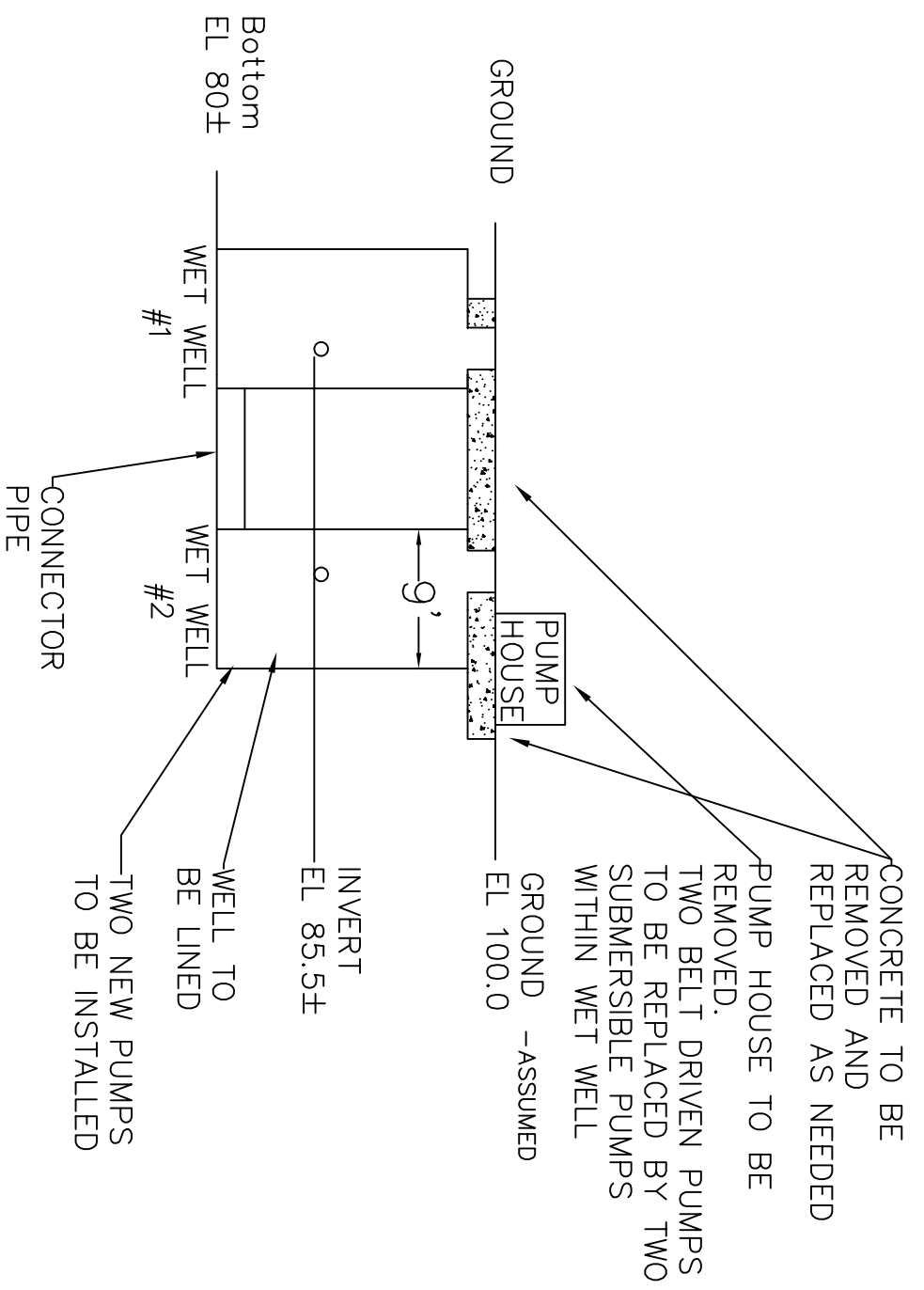
715 North Fredon Blvd.
Crestview, FL 32536
850.682.6132

MARC BONIFAY, P.E.
CITY ENGINEER



PLAN
Scale 1" = 10'

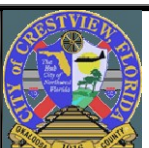
- NOTE 1: ELEVATIONS ARE ASSUMED
 NOTE 2: NO SURVEY WAS DONE OF THE SITE
 NOTE 3: DIMENSIONS ARE TO THE NEAREST FOOT
 NOTE 4: CONTRACTOR TO VERIFY DIMENSIONS OF EXISTING CONCRETE WETWELL BEFORE ORDERING FIBERGLASS WETWELL TO ENSURE PROPER FIT



SEQUENCE OF CONSTRUCTION:

- Bypass all flow to the wetwell.
- Remove existing pump enclosure, pumps, control panel, and generator.
- Remove concrete top as necessary.
- Remove all piping, equipment, and apparatuses in the wetwell.
- Dewater.
- Install fiberglass wetwell into 9' concrete wetwell and grout in place.
- Tie all existing influent and equalizer pipes into the fiberglass wetwell.
- Install new submersible pumps, piping, control panel, generator, and wetwell hatch.
- Construct new concrete top.
- Redirect flows back to wetwell.
- Restore all disturbed areas to pre-construction condition.

PROFILE
Not to Scale

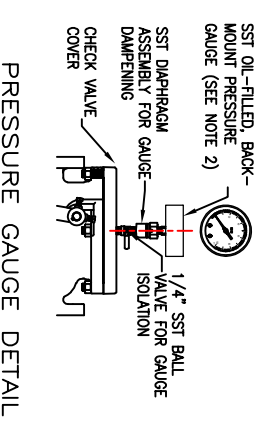
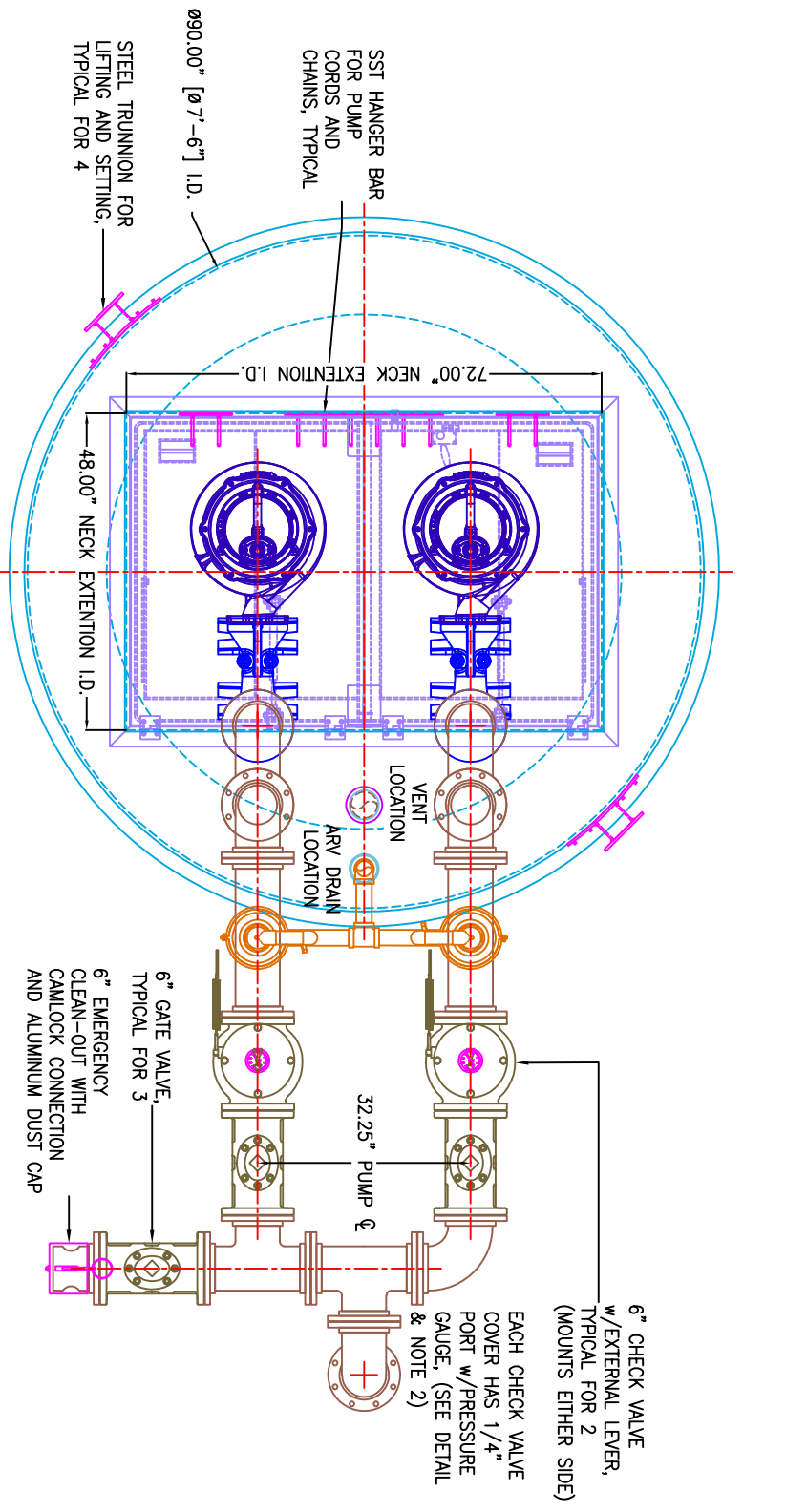
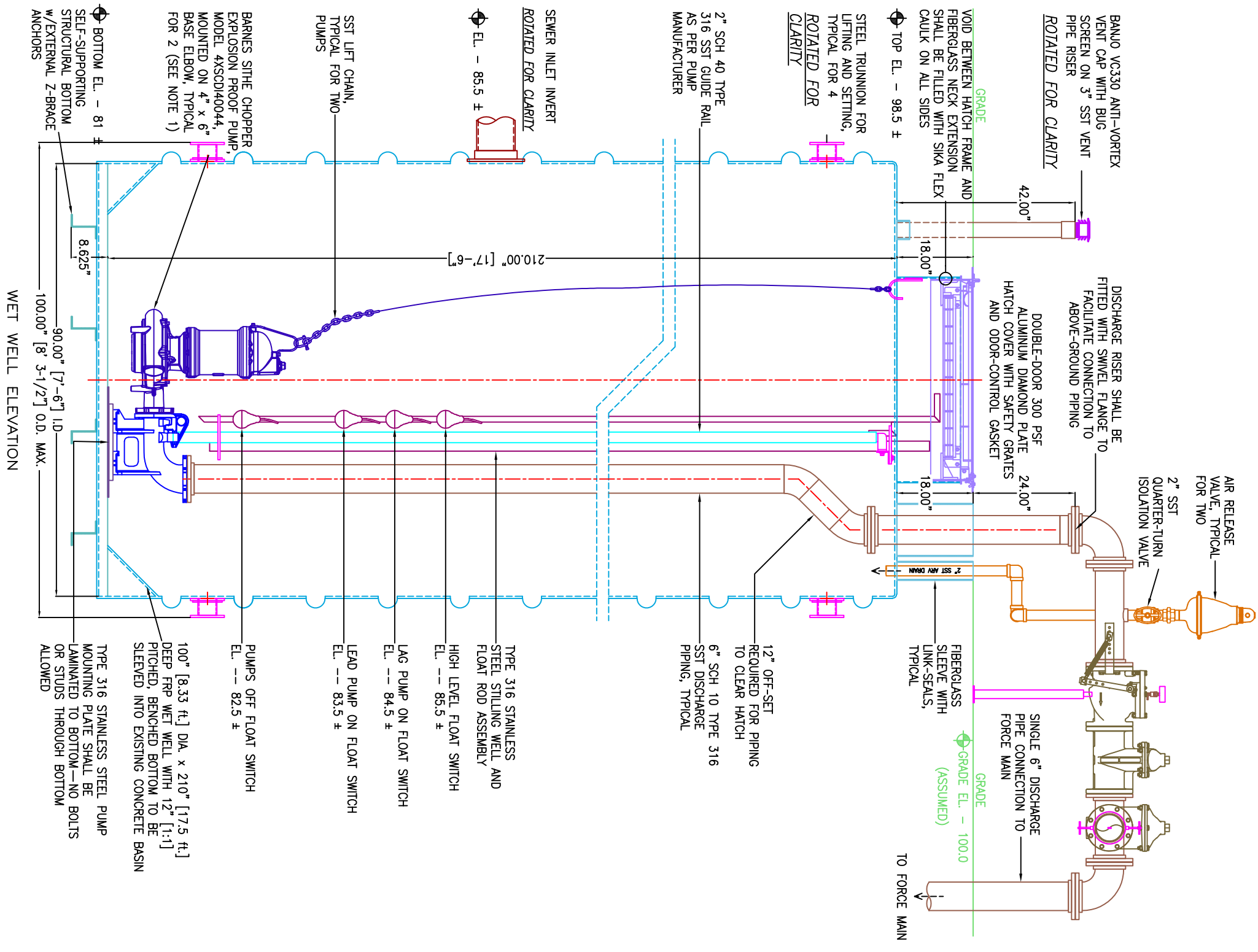


**CITY OF CRESTVIEW
PUBLIC SERVICES DEPT**
 715 NORTH FERDON BLVD - STATE ROAD 85
 Crestview, Florida 32536
 PHONE: 850-682-6132 FAX 850-682-7359

Lift Station #9
Pre-Renovation
Site Plan and Profile

261
Henderson St

REVISIONS	DATE	BY
DESIGNED		
DRAWN		
DATE	Aug 2019	
Project Number		



PUMP DATA TABLE	
MANUFACTURER	BARNES
MODEL	4XSCDD40044
VOLTAGE	460
PHASE	3
HP	40
FLA	53
RPM	1750
GPM	642
TDH (feet)	123

- NOTES:**
1. THE PUMPS MUST HAVE A 5-YEAR 100% REPAIR PARTS AND LABOR WARRANTY AS PROVIDED BY THE PUMP MANUFACTURER.
 2. PRESSURE GAUGE TO BE SIZED TO READ NO MORE THAN 1-1/2 TIMES THE MAXIMUM PRESSURE PUMP PROVIDES AT DEAD HEAD.

Butch Branton - Municipal Sales
 3820 Hopkins Street · Pensacola, FL 32505
 850.432.0334 Ofc · 850.432.1336 Fax
 1.888.G04.PUMP · www.ppeinc.net

TITLE: LIFT STATION No. 9 REHAB
 CRESTVIEW, FLORIDA
 DUPLEX PUMP STATION

CREATED BY: DS
 SCALE: NTS
 DATE: 8/6/19

APPROVED BY: BB
 REVISION: KDL
 SHEET: 3 OF 3