

CITY OF LONGVIEW

SPECIFICATIONS & CONTRACT FORMS
FOR THE CONSTRUCTION OF

**GRACE CREEK WWTP
THICKENER GEAR DRIVE REPLACEMENT**

PREPARED BY:

CITY OF LONGVIEW
PUBLIC WORKS ENGINEERING

July 2019

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ADVERTISEMENT FOR BIDS

Sealed proposals addressed to Rolin McPhee, P.E., Director of Public Works, City of Longview, Texas, will be received until 2:00 p.m., Mon, October 14, 2019, for furnishing all labor, materials, equipment, supplies, and supervision necessary for the construction of Grace Creek WWTP Thickener Gear Drive Replacement, in accordance with the specifications on file at the City of Longview Public Works Department. At the time stated, bids will be opened and publicly read in the conference room of the Public Works Department located at 933 Mobile Drive, Longview, Texas.

Plans and specifications may be examined without charge at the office of the Public Works Engineer, 933 Mobile Drive, Longview, Texas, 75604, (903)237-1112 or the website: <https://longviewtexas.gov/list.aspx>.

EEO/M/F/V/H/D.
ROLIN McPHEE, P.E.
DIRECTOR OF PUBLIC WORKS
CITY OF LONGVIEW, TEXAS

NOTICE TO BIDDERS OF THE INTENTION OF THE CITY OF LONGVIEW, TX TO LET BIDS FOR THE CONSTRUCTION OF GRACE CREEK WWTP THICKENER GEAR DRIVE REPLACEMENT

SEALED PROPOSALS addressed to Rolin McPhee, P.E., Director of Public Works, City of Longview, Texas, Public Works Service Center, 933 Mobile Drive, Longview, Texas, 75604, will be received until 2:00 p.m., Monday, October 14, 2019, for furnishing all labor, materials, equipment, supplies, and supervision necessary for replacing the Grace Creek WWTP Thickener Gear Drive, in accordance with the plans and specifications on file at the Public Works Engineering office. At the time stated, bids will be opened and publicly read at the City of Longview, Texas, Public Works Service Center, 933 Mobile Drive, Longview, Texas 75604.

PLANS AND SPECIFICATIONS may be examined without charge or obtained for a purchase price of \$50.00 per set at the office of the Public Works Engineering Manager, 933 Mobile, Street, P. O. Box 1952, Longview, Texas, 75606-1952. Refunds will be made for undamaged sets returned by actual project bidders at the bid opening, after which time no refunds will be made. Plan documents may also be downloaded from the website: <https://longviewtexas.gov/list.aspx>.

ALL BID PROPOSALS submitted should be marked clearly on the outside of the sealed envelope with the project name and bid opening time and date.

A CERTIFIED OR CASHIER'S CHECK, or an acceptable bid bond in an amount not less than five percent (5%) of the total bid shall accompany each bid as a guaranty that, if awarded the contract, the bidder will promptly enter into contract with the City of Longview, Texas and furnish bonds on the forms provided.

THE SUCCESSFUL BIDDER OR BIDDERS will be required to furnish a Performance Bond, Payment Bond, and Maintenance Bond, in the amount of the contract, written by a responsible surety company authorized to do business in the State of Texas, and satisfactory to the Owner as required by Article 5160 V.A.T.C.S.

BIDDERS ARE EXPECTED TO INSPECT the site of the work and to inform themselves of all local conditions. Time of completion shall be 45 calendar days, including Saturdays, Sundays, and legal holidays.

NO BID may be withdrawn after the scheduled closing time for receipt of bids for at least 90 calendar days.

IN CASE of ambiguity or lack of clearness stating the price in the bids, the Owner reserves the right to consider the most advantageous construction thereof or to reject the bid. The Owner reserves the right to reject any or all bids, waive any or all informalities, and to award the contract to the bidder or bidders who, in the opinion of the Owner, offers the proposal to the best interest of same.

EEO/M/F/V/H/D

**ROLIN MCPHEE, P. E.
DIRECTOR OF PUBLIC WORKS
CITY OF LONGVIEW, TEXAS**

INFORMATION FOR BIDDERS

1. Receipt and Opening of Proposals. The City of Longview (Owner) invites Proposals to be submitted on the forms provided. Proposals will be received by the Owner in the Public Works Training Room, 933 Mobile Drive, Longview, TX, 75604, until the time and date specified in the Notice to Bidders, and then at the stated time and place publicly opened and read aloud. Only the total amount of the bid will be read aloud, however, the Proposals will be open for public inspection immediately following the opening.

The Owner reserves the right to waive any informality and to reject any or all bids. Any Proposal received after the specified time will be returned to the Bidder unopened. No Proposal may be withdrawn within 90 days from the opening date. Conditional bids will not be considered.

2. Preparation of Proposals. Each Proposal must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and the name of the project for which the Proposal is submitted. If forwarded by mail, the sealed envelope containing the Proposal must be enclosed in another envelope addressed as specified.
3. Withdrawal or Modification of Bid. Prior to the bid opening, no Proposal may be withdrawn after 48 hours before the time of the bid opening. Any modification of any bid may be made under the same conditions as set forth for submitting a Proposal.
4. Qualifications of Bidders. The Owner may make such investigations as he deems 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 Proposal if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that the bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.
5. Bid Security. Each Proposal must be accompanied by cash, certified check of the Bidder, or a bid bond duly executed by the Bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of 5% of the base bid. Such cash, checks or bid bonds will be returned to all except the three lowest Bidders within three days after the opening of bids, and the remaining cash, checks, or bid bonds will be returned promptly after the Owner and the accepted Bidder have executed the contract, or if no award has been made within 90 days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his Proposal.

6. Liquidated Damages for Failure to Enter into Contract. The successful Bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 15 days after he has received notice of the acceptance of his Proposal, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his Proposal.
7. Time of Completion and Liquidated Damages. Bidder must agree to commence work within 10 days after the date to be specified in a written "Notice to Proceed" by the Owner and to fully complete the project within the time stated in the Proposal. The bidder must agree to pay, as liquidated damages, the sum of **\$190.00** for each consecutive calendar day thereafter as hereinafter provided for in the General Conditions.
8. Conditions of Work. Each Bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful Bidder of his obligation to furnish all material and labor necessary to carry out the provision of his Contract. Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.
9. Addenda and Interpretation. No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any Bidder orally. Every request for such interpretation should be in writing addressed to Public Works Engineering, 933 Mobile Drive, P. O. Box 1952, Longview, Texas 75606, and to be given consideration must be received at least five days prior to the date fixed for the opening of Proposals. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed by regular mail to all prospective bidders not later than two days prior to the date fixed for the opening of Proposals. Failure of any Bidder to receive any such addendum or interpretation shall not relieve such Bidder from any obligation under his bid as submitted. Each Bidder shall check with Public Works Engineering at an appropriate time to determine that he or she has received all Addenda; failure to do so shall be the complete responsibility of the Bidder. All addenda so issued shall become part of the contract documents.
10. Security for Faithful Performance. Simultaneously with his delivery of the executed Contract, the Contractor shall furnish bonds as security for faithful performance of this Contract and for the payment of all persons performing labor on the project under Contract and furnishing materials in connection with Contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner. In the case that the total bid is \$25,000. or less, the Contractor may elect not to furnish a Performance and Payment Bond; provided that it is understood and agreed that no progress or monthly payment will be made and that final payment will be made following completion and acceptance by the City of the entire project.

11. Power of Attorney. Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.
12. Laws and Regulations. The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout and they will be deemed to be included in the Contract the same as though herein written out in full.
13. Obligation of Bidder. At the time of the opening of Proposals each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents, including all addenda. The failure or omission of any Bidder to examine any form, instrument or document shall in no way relieve any Bidder from any obligation in respect of his bid.
14. Certification of Completion. A Certificate of Completion, which is included in these contract documents, will be required in the final completion and acceptance of the project as provided in the General Conditions of Agreement Item 5.06.

STATEMENT OF QUALIFICATIONS

Bidder: _____

Address: _____

Similar Projects Completed by Bidder:

1. NAME OF PROJECT: _____

OWNER: _____ ADDRESS _____

DATE STARTED _____ DATE COMPLETED: _____

APPROX. QUANTITIES OF MAJOR ITEMS: _____

VALUE OF CONTRACT: _____

2. NAME OF PROJECT: _____

OWNER: _____ ADDRESS _____

DATE STARTED _____ DATE COMPLETED: _____

APPROX. QUANTITIES OF MAJOR ITEMS: _____

VALUE OF CONTRACT: _____

3. NAME OF PROJECT: _____

OWNER: _____ ADDRESS _____

DATE STARTED _____ DATE COMPLETED: _____

APPROX. QUANTITIES OF MAJOR ITEMS: _____

VALUE OF CONTRACT: _____

4. OTHER PROJECT REFERENCES: _____

THIS FORM MUST BE INCLUDED WITH YOUR SEALED BID

**CITY OF LONGVIEW
PUBLIC WORKS DEPARTMENT**

CERTIFICATE OF FINAL COMPLETION OF:

Grace Creek WWTP Thickener Gear Drive Replacement

CONTRACT DATED: _____

STATE OF TEXAS

COUNTY OF GREGG }

Before me, the undersigned authority, a Notary Public in and for Gregg County, Texas, on this day personally appeared _____ who, being by me duly sworn on his oath, says that he is/represents _____, the contractor who has performed a contract with the City of Longview for the construction of the work described above, and is duly authorized to make this affidavit; that he has personally examined the work described above as required by the specifications of the City of Longview attached to the contract; that said work and all items thereof have been completed and all known defects made good; that thereof have been completed and all known defects made good; that all surplus material, refuse, dirt and rubbish have been cleaned up, removed and disposed of; that all parts of the work are in a neat, tidy, finished condition and ready in all respects for acceptance by the City; that all the required work has been performed in accordance with the specifications, that rates of pay for all labor employed on said work have not been below the minimum set out in Labor Classification and Minimum Wage Scale in said Specifications and that within the knowledge of affiant all just bills for labor and material and for the rental or use of any equipment or apparatus used in, on, or in connection with the work have been paid in full by the Contractor.

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

Notary Public, Gregg County, Texas

This is to certify that I have thoroughly inspected the work performed by the above named contractor on the above-described contract and find all things in accordance with the plans and specifications governing this work.

Inspector

Project Engineer

General Decision Number: TX190250 02/08/2019 TX250

Superseded General Decision Number: TX20180300

State: Texas

Construction Type: Building

County: Gregg County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019
1	02/08/2019

BOIL0074-003 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 28.00	22.35

ELEC1151-003 09/01/2015

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring and Installatin of Sound and Communication Systems).....	\$ 23.40	13%+5.20

* ELEV0021-006 01/01/2019

	Rates	Fringes
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ELEVATOR MECHANIC.....\$ 41.24 33.705

FOOTNOTES:

A. 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.

B. New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Veterans Day.

 ENGI0178-005 06/01/2014

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(1) Tower Crane.....	\$ 29.00	10.60
(2) Cranes with Pile Driving or Caisson Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 27.50	10.60

 IRON0084-011 06/01/2018

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 23.77	7.12

 PLUM0100-006 11/01/2017

	Rates	Fringes
PIPEFITTER.....	\$ 29.09	11.51

 SUTX2014-026 07/21/2014

	Rates	Fringes
BRICKLAYER.....	\$ 18.33	2.50
CARPENTER (Form Work Only).....	\$ 13.63	0.00
CARPENTER, Excludes Form Work....	\$ 25.00	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 13.94	0.00
ELECTRICIAN (Communication Technician Only).....	\$ 14.00	2.90
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 14.36	2.44
INSULATOR - MECHANICAL (Duct, Pipe & Mechanical System Insulation).....	\$ 19.77	7.13
IRONWORKER, REINFORCING.....	\$ 12.27	0.00
IRONWORKER, STRUCTURAL.....	\$ 20.00	0.00

LABORER: Common or General.....	\$ 11.02	0.00
LABORER: Mason Tender - Brick....	\$ 11.36	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 10.66	0.00
LABORER: Pipelayer.....	\$ 12.49	2.13
LABORER: Roof Tearoff.....	\$ 11.28	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 15.60	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93	0.00
OPERATOR: Bulldozer.....	\$ 14.00	0.27
OPERATOR: Drill.....	\$ 16.22	0.34
OPERATOR: Forklift.....	\$ 14.83	0.00
OPERATOR: Grader/Blade.....	\$ 15.10	1.94
OPERATOR: Loader.....	\$ 12.62	2.42
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03	0.00
OPERATOR: Roller.....	\$ 12.70	0.00
PAINTER (Brush, Roller, and Spray).....	\$ 14.45	0.00
PLUMBER.....	\$ 21.35	4.55
ROOFER.....	\$ 13.75	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 22.73	7.52
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 15.44	1.46
TILE FINISHER.....	\$ 11.22	0.00
TILE SETTER.....	\$ 14.74	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.39	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00	4.11

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

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

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Liquidated Damages Calculation

PROJECT Grace Creek WWTP Thickener Gear Drive Replacement
 C.I.P. PROJECT NO. _____ PROJECT MANAGER Kevin Chumbley
 CONTRACT NO. _____ PROJECT SPONSOR _____
 PREPARED BY Kevin Chumbley DATE 7/15/2019

ON-SITE PROJECT INSPECTION (CITY FORCES)

Engineer/Architect	<u>4</u> hr/wk @	<u>\$43.00</u> /hr =	<u>\$172.00</u> /wk (÷7) =	<u>\$24.57</u> /day
Supervising Inspector	<u>24</u> hr/wk @	<u>\$24.33</u> /hr =	<u>\$583.92</u> /wk (÷7) =	<u>\$83.42</u> /day
Inspector	<u>0</u> hr/wk @	<u>\$22.00</u> /hr =	<u>\$0.00</u> /wk (÷7) =	<u>\$0.00</u> /day
Sub-Total =				<u>\$107.99</u> /day
Overhead: _____ % of Sub-Total				= <u>\$107.99</u> /day

Overtime (over 40 Hours):

Supervising Inspector	<u>0</u> hr/wk @	<u>\$0.00</u> /hr =	<u>\$0.00</u> /wk (÷7) =	<u>\$0.00</u> /day
Inspector	<u>0</u> hr/wk @	<u>\$0.00</u> /hr =	<u>\$0.00</u> /wk (÷7) =	<u>\$0.00</u> /day
Sub-Total =				<u>\$0.00</u> /day
Overhead: <u>.00</u> % of Sub-Total				= <u>\$0.00</u> /day

Consulting Services:

Engineer/Architect (Private Sector)	<u>0</u> hr/wk @	<u>\$0.00</u> /hr =	<u>\$0.00</u> /wk (÷7) =	<u>\$0.00</u> /day
Technician (Private Sector)	<u>0</u> hr/wk @	<u>\$0.00</u> /hr =	<u>\$0.00</u> /wk (÷7) =	<u>\$0.00</u> /day

Project Management

Project Manager (City)	<u>8</u> hr/wk @	<u>\$43.00</u> /hr =	<u>\$344.00</u> /wk (÷7) =	<u>\$49.14</u> /day
Technician (City)	<u>8</u> hr/wk @	<u>\$24.33</u> /hr =	<u>\$194.64</u> /wk (÷7) =	<u>\$27.81</u> /day
Sub-Total =				<u>\$76.95</u> /day
Overhead: <u>.00</u> % of Sub-Total				= <u>\$76.95</u> /day

INTEREST ON MONEY PAID TO THE CONTRACTOR, BUT NOT USABLE

Assuming 80% paid @ completion date:

Construction Cost		<u>\$100,000.00</u>
Total Paid (80%)		<u>\$80,000.00</u>
Daily Interest @ 0.0110 % of Total Paid: (or <u>4</u> % annual interest rate):	=	<u>\$8.80</u> /day
Loss of Revenue for Revenue Producing Projects	=	<u>\$0.00</u> /day
Loss of Capital Recovery Fees	=	<u>\$0.00</u> /day
Actual Expenses Incurred	=	<u>\$0.00</u> /day
Equipment Rental	=	<u>\$0.00</u> /day
Space Rental	=	<u>\$0.00</u> /day
Total per Calendar Day		<u>\$193.74</u>
USE		<u>\$190.00</u>

PROPOSAL

CITY OF LONGVIEW
PUBLIC WORKS SERVICE CENTER
933 MOBILE DRIVE
LONGVIEW, TX 75604
"Grace Creek WWTP Thickener Gear Drive Replacement"
2:00 P.M., October 14, 2019

Proposal of _____,
(hereinafter called "Bidder"), a corporation, organized and existing
under the laws of the State of _____ a partnership, or an
individual doing business as _____ (strike out
inapplicable terms).

TO THE CITY OF LONGVIEW, TEXAS (OWNER):

The undersigned bidder, in response to the Notice to Bidders for the construction of the above project and in conformance with the Information for Bidders; having examined the plans, specifications, related documents and the site of the proposed work; being familiar with all of the conditions relating to the construction of the proposed project, including the availability of materials and labor; hereby proposes to furnish all labor, materials, supplies, equipment, and superintendence necessary for the construction of the project in accordance with the specifications and contract documents at the unit prices proposed herein.

The undersigned Bidder proposes, acknowledges, and agrees to construct the entire project, fully in accordance with the requirements of the specifications and contract documents for the prices included in this Proposal and fully understands and agrees that the various items of material, labor, and construction not specifically enumerated and provided for herein are considered subsidiary to the several items for which this direct payment is specifically provided. Furthermore, the undersigned agrees that one such subsidiary item is the protection, maintenance, repair, or replacement of all underground lines and services, all to the full satisfaction of the Owner and in a timely manner.

CITY OF LONGVIEW, TEXAS
PROPOSAL: "Grace Creek WWTP Thickener Gear Drive Replacement"
BID PROPOSAL

BID NO.	DESCRIPTION (with unit price in words)	UNIT	QTY	UNIT PRICE	TOTAL
BASE BID					
1	FURNISH ALL LABOR AND MATERIALS TO REMOVE AND REPLACE THICKNER DRIVE ASSEMBLY Per TECHNICAL SPECIFICATIONS SECTION 1.0	L.S.	1		
2	MISCELLANEOUS ALLOWANCE	L.S.	1	XXXXX	\$20,000.00
				Total Base Bid	

***Total Base Bid** includes the sum of Bid Item #1 and Bid Item #2 Miscellaneous Allowance

NOTE: Quantities are estimates only. Quantities may be added or deleted contingent upon available funding with no change in unit cost.

Miscellaneous allowance is to be used only at the discretion of, and as directed by, the OWNER. Unused portion of this allowance will be remitted to OWNER at the conclusion of the project.

CONTRACTOR'S SIGNATURE: _____

The undersigned Bidder hereby agrees to begin work under the contract on or before the date to be specified in the written Notice to Proceed and to fully complete the project within 45 consecutive calendar days. The undersigned Bidder further agrees to pay, as liquidated damages, the sum of \$190 for each consecutive calendar day thereafter as provided in Item 7 of the Information for Bidders.

The undersigned Bidder has contacted, within 72 hours prior to this bid opening, the office of the City Engineer and has determined that all Addenda are as follows:

Addendum No. 1, dated _____;
 Addendum No. 2, dated _____;

The undersigned Bidder acknowledges and agrees that this Proposal shall be good and may not be withdrawn for a period of 90 calendar days after the date of this bid opening.

The undersigned Bidder is obligated to and shall show accurate unit prices as well as total amounts, and agrees that in the case of ambiguity between unit prices and total amounts or in the case of any other ambiguity the Owner may interpret an ambiguity in a manner most advantageous to the Owner or reject the bid.

The undersigned Bidder further acknowledges and agrees that a bid that has been opened may not be changed for the purpose of correcting an error in the final bid price.

The undersigned Bidder agrees to execute the Contract Agreement and furnish the required Performance Bond, Payment Bond, and Maintenance Bond within 15 calendar days from the date of acceptance of the Proposal.

The undersigned Bidder has attached and made a part of this Proposal a bid security in conformance with Item 5 of the Information for Bidders.

Submitted by:

(Signature)

(Firm)

(Name - Typed or Printed)

(Address)

(Title)

(City, County, State, Zip Code)

(Attest)

(Area Code-Telephone Number)

(Corporation Seal)

(Fax Number)

VENDOR COMPLIANCE TO STATE LAW

The 1985 Session of the Texas Legislature passed House Bill 620 relative to the award of contracts to non-resident bidders. This law provides that, in order to be awarded a contract as low bidder, non-resident bidders (out-of-state contractors whose corporate offices or principal place of business are outside of the state of Texas) bid projects for construction, improvements, supplies or services in Texas at an amount lower than the lowest Texas resident bidder by the same amount that a Texas resident bidder would be required to under bid a non-resident bidder in order to obtain a comparable contract in the state in which the non-residents principal place of business is located. The appropriate blanks in Section A must be filled out by all out-of-state or non-resident bidders in order for your bid to meet specifications. The failure of out-of-state or non-resident contractors to do so will automatically disqualify that bidder. Resident bidders must check the blank in Section B.

A. Non-resident vendors in _____ (insert state), our principal place of business, are required to be _____ percent lower than resident bidders by state law. A copy of the statute is attached.

Non-resident vendors in _____ (insert state), our principal place of business, are not required to underbid resident bidders.

B. _____ Our principal place of business or corporate offices are in the State of Texas.

BIDDER:

(company)

(address)

(city, state, zip)

By: _____
(signature)

(print name)

(title)

THIS FORM MUST BE INCLUDED WITH YOUR SEALED BID

**Certificate of Interested Parties (Form 1295)
Notice and Process**

In 2015, the Texas Legislature adopted House Bill 1295, which added Section 2252.908 of the Government Code. The law states that a governmental entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity. The disclosure of interested parties will be submitted online via Form 1295 and must be submitted to the governmental entity prior to any signed contract and/or vote by the governing authority.

The Filing Process:

1. Prior to award by City Council, your firm will be required to log in to the Texas Ethics Commission, https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm and fill out the Electronic Filing Application.
2. Once submitted, the system will generate an electronic Form 1295 displaying a "Certificate Number." Your firm must print, sign and notarize Form 1295.
3. **Within seven (7) business days** from notification of pending award by the City of Longview Purchasing Department, the completed Form 1295 **must** be submitted to City of Longview.
4. Your firm will need to repeat this process and obtain a separate Form 1295 each time you enter into a new contract, renew a contract or make modification and/or amendments to a City of Longview contract.

Instructions and information are available at <https://www.ethics.state.tx.us/tec/1295-Info.htm> or you may call the Texas Ethics Commission at (512) 463-5800.

BY SUBMITTING A BID YOUR FIRM AGREES TO ADHERE TO HB 1295 REFERENCED ABOVE

Please Note: No action required until notification of potential award by the City of Longview Purchasing Department.

Exhibit A: Instructions for House Bill 1295

This form must be filled out before a recommendation to council for award of a contract can be made.

Since City of Longview is a governmental entity, we are required by law to have you fill out Form 1295 online at the web address listed below. I have attached a copy of what the form will look like when you access it online. Enter your business name, the agency/entity will be City of Longview, and Contract ID will be the bid # and description of the Bid, which is Grace Creek WWTP Gear Drive Replacement. I have included a definition of interested parties:

Interested Party means a person who has controlling interest in a business entity with whom a governmental entity or state agency contracts or who actively participates in facilitating the contract or negotiating the terms of the contract, including a broker, intermediary, adviser, or attorney for the business entity.

Intermediary for purposes of this rule, means, a person who actively participates in the facilitation of the contract or negotiating the contract, including a broker, adviser, attorney or representative of or agent for the business entity who:

1. receives compensation from the business entity for the person's participation;
2. Communicates directly with the governmental entity or state agency on behalf of the business entity regarding the contract; and
3. Is not an employee of the business entity.

Once you have filled out the form online, the system will generate a form showing a certificate number. Please print this form, sign it and have it notarized. Once it is notarized, please send it to me. I am required by law to keep this certificate on file. Please call me at 903-237-1324 if you have any questions.

Once we have this form, the City can make a recommendation to City Council to award this contract.

Certificate of Interested Parties (Form 1295)

In 2015, the Texas Legislature adopted House Bill 1295, which added Section 2252.908 of the Government Code. The law states that a government entity may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the government entity. The disclosure of interested parties will be submitted online via Form 1295 and must be submitted to the governmental entity prior to any signed contract and/or vote by the governing authority.

The Filing Process:

1. **Since your firm was awarded a contract with City of Longview your firm is required to log in to the Texas Ethics Commission, https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm and fill out the Electronic Filing Application.**
2. Once submitted, the system will generate an electronic Form 1295 displaying a "Certificate Number." Your firm must print, sign and notarize Form 1295.
3. **As soon as possible** the completed Form 1295 **must** be submitted to City of Longview.
4. Your firm will need to repeat this process and obtain a separate Form 1295 each time you enter into a new contract, renew a contract or make modification and/or amendments to a City of Longview contract.

Instructions and information are available at <https://www.ethics.state.tx.us/tec/1295-Info.htm> or you may call the Texas Ethics Commission at (512) 463-5800.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
 Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the goods or services to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary
<p style="font-size: 2em; color: blue; opacity: 0.5;">TO BE COMPLETED BY SUCCESSFUL BIDDER</p>			

5 Check only if there is NO Interested Party.

6 AFFIDAVIT I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

 Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20 _____, to certify which, witness my hand and seal of office.

 Signature of officer administering oath Printed name of officer administering oath Title of officer administering oath

ADD ADDITIONAL PAGES AS NECESSARY

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

FORM CIQ

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

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

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

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

OFFICE USE ONLY

Date Received

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

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

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

Name of Officer

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

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

Yes No

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

Yes No

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

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

7

Signature of vendor doing business with the governmental entity

Date

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

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

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

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

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

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

(2) the vendor:

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

(i) a contract between the local governmental entity and vendor has been executed;

or

(ii) the local governmental entity is considering entering into a contract with the vendor;

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

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

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

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

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

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

(3) has a family relationship with a local government officer of that local governmental entity.

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

(1) the date that the vendor:

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

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

(2) the date the vendor becomes aware:

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

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

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

**CITY OF LONGVIEW
PURCHASING DEPARTMENT**

SENATE BILL 252 CERTIFICATION

On this day, I, _____, the
Purchasing Representative for <Organization Name. in <City>, Texas, pursuant to
Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153,
certify that I did review the website of the Comptroller of the State of Texas concerning
the listing of companies that is identified under Section 806.051, Section 807.051 or
Section 2253.253 and I have ascertained that the below-named company is not
contained on said listing of companies which do business with Iran, Sudan or any
Foreign Terrorist Organization.

Company Name

RFP or Vendor number

CERTIFICATION CHECK PERFORMED BY:

Purchasing Representative

Date

CITY OF LONGVIEW
House Bill 89 Verification

I, _____ (Person name), the undersigned
representative of _____ (Company or Business name)

_____ (hereafter referred to as company) being
an adult over the age of eighteen (18) years of age, after being duly sworn by the
undersigned notary, do hereby depose and verify under oath that the company named-
above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.001, Texas Government Code:

1. *“Boycott Israel” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and*
2. *“Company” means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.*

DATE

SIGNATURE OF COMPANY REPRESENTATIVE

On this the _____ day of _____, 20____, personally appeared
_____, the above-named person, who after
by me being duly sworn, did swear and confirm that the above is true and correct.

NOTARY SEAL

NOTARY SIGNATURE

Date

STATEMENT OF MATERIALS AND SERVICES

City of Longview

Project Name: Grace Creek WWTP Thickener Gear Drive Replacement

Total Materials Cost: \$ _____

Total Service Cost: \$ _____

TOTAL CONTRACT PRICE: \$ _____

Note: The total materials cost plus the total services cost must equal the amount shown of the total contract price.

RESERVED FOR BID-BOND

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STANDARD FORM OF AGREEMENT

Approved as to Legal Form by
City of Longview Legal Counsel

STATE OF TEXAS

}

COUNTY OF GREGG

}

THIS AGREEMENT, made and entered into this _____ day of _____, A.D. 2019, by and between the City of Longview of the County of Gregg and State of Texas, acting through its City Manager, thereunto duly authorized so to do, Party of the First Part, hereinafter termed OWNER, and _____ of the City of _____, County of _____ and State of _____, Party of the Second Part, hereinafter termed CONTRACTOR.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Party of the First Part (OWNER), and under the conditions expressed in the bond bearing even date herewith, the said Party of the Second Part (CONTRACTOR), hereby agrees with the said Party of the First Part (OWNER) to commence and complete the construction of certain improvements described as follows:

Grace Creek WWTP Thickener Gear Drive Replacement

and all extra work in connection therewith, under the terms as stated in this Standard Form of Agreement; all of the documents attached to this Standard Form of Agreement; all Plans, Specifications and drawings for the Grace Creek WWTP Thickener Gear Drive Replacement, as prepared by the OWNER's Engineer (herein entitled "ENGINEER"); and all printed or written explanatory materials of said Plans, Specifications and drawings. The CONTRACTOR hereby agrees with the OWNER that the CONTRACTOR shall commence and complete all such construction and work at the CONTRACTOR's own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said construction and work.

The documents that are attached to and for all purposes made part of this Standard Form of Agreement include the Advertisement to Bidders, Notice to Bidders, Information for Bidders, Statement of Qualifications, Certificate of Final Completion, Wage Rates, Liquidated Damages Calculation, CONTRACTOR's Bid Proposal, Vendor Compliance to State Law, Certificate of Interested Parties Form 1295, Certificate of Interested Parties Instructions, House Bill 89 Verification, Senate Bill 252 Certification, Statement of Materials, Bid Bond, Certificate of Insurance, Standard Form of Agreement, Performance Bond, Payment Bond, Maintenance Bond, This agreement shall also include all General Conditions, Special Conditions, Technical Specifications and Plan Drawings Exhibits for the Grace Creek WWTP Thickener Gear Drive Replacement, as prepared by the ENGINEER, and all printed or written explanatory materials of said Plans, Specifications and Drawings. This Standard Form of Agreement and the documents listed herein shall collectively evidence and constitute the entire contract between the parties hereto regarding the subject matter hereof.

The CONTRACTOR hereby agrees to commence work within ten (10) days after the date written notice to do so shall have been given to him, and to complete the same within Forty-five (45) calendar days after the date of the written notice to commence work, subject to such extensions of time as are provided by the General and Special Conditions of Agreement.

CONTRACTOR's failure to timely commence work or diligently pursue completion of the work within the time limitations set out herein shall constitute a material breach of this contract. TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS CONTRACT.

The OWNER agrees to pay the CONTRACTOR in current funds the price or prices shown in the Proposal, which forms a part of this contract, such payments to be subject to the terms and conditions of this contract, including without limitation the General and Special Conditions of Agreement.

Without regard to and notwithstanding any rules on conflicts of law, this contract shall be subject to and interpreted in conformance with the laws of the State of Texas, unless expressly required otherwise by federal law or regulations. Venue for any action arising hereunder shall lie exclusively in Gregg County, Texas, for actions in state court and in the Eastern District of Texas, Tyler Division, for actions in federal court.

IN WITNESS WHEREOF, the parties to these presents have executed this Agreement in the year and day first above written.

Party of the First Part (OWNER)

Party of the Second Part (CONTRACTOR)

By:_____

By:_____

ATTEST:

ATTEST:

(Seal)

(Seal)

PERFORMANCE BOND

STATE OF TEXAS
COUNTY OF GREGG

KNOW ALL MEN BY THESE PRESENTS: That _____
of the City of _____ County of _____, and State
of _____, as principal, and
_____ authorized under the laws of the
State of Texas to act as surety on bonds for principals, are held and firmly bound unto the City of
Longview, Texas (Owner), in the penal sum of: _____
_____ Dollars (\$_____) for the
payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators,
executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the Principal has entered into a certain written contract with the Owner, dated
the _____ day of _____, 2019, to complete

Grace Creek WWTP Thickener Gear Drive Replacement

which contract is hereby referred to and made a part hereof as fully and to the same extent as if
copied at length herein.

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

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

Surety, for value received, stipulates and agrees that no change, extension of time, alteration
or addition to the terms of the contract, or to the work performed thereunder, or the plans,
specifications, or drawings accompanying the same, shall in anywise affect its obligation on this
bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to
the terms of the contract, or to the work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this _____ day of _____, 2019.

Principal

Surety

By _____

By _____

Title _____

Title _____

Address _____

Address _____

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

PAYMENT BOND

STATE OF TEXAS
COUNTY OF GREGG

KNOW ALL MEN BY THESE PRESENTS: That _____
of the City of _____ County of _____, and
State of _____, as principal, and
_____ authorized under the laws of the State of Texas to act as
surety on bonds for principals, are held and firmly bound unto the City of Longview, Texas (Owner),
in the penal sum of: _____
_____ Dollars (\$ _____)
for the payment whereof, the said Principal and Surety bind themselves, and their heirs,
administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the Principal has entered into a certain written contract with the Owner, dated
the _____ day of _____, 2019, to construct

Grace Creek WWTP Thickener Gear Drive Replacement

which contract is hereby referred to and made a part hereof as fully and to the same extent as if
copied at length herein.

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

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

Surety, for value received, stipulates and agrees that no change, extension of time, alteration
or addition to the terms of the contract, or to the work performed thereunder, or the plans,
specifications, or drawings accompanying the same, shall in anywise affect its obligation on this
bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to
the terms of the contract, or to the work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this _____ day of _____, 2019.

Principal

Surety

By _____

By _____

Title _____

Title _____

Address _____

Address _____

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

ONE-YEAR MAINTENANCE BOND

STATE OF TEXAS §

COUNTY OF GREGG §

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
as Principal, hereinafter called "Contractor", and the other subscriber hereto as Surety, do hereby
acknowledge ourselves to be held and firmly bound to the City of Longview, a municipal
corporation, in the sum of _____
DOLLARS (\$_____)

for the payment of which sum well and truly to be made to the City of Longview, and its successors,
the said Contractor and Surety do bind themselves, their successors and assigns jointly and severally.
The conditions of this obligation are such that:

WHEREAS, the said Contractor has entered into a contract in writing with the City of
Longview, Texas, dated of even date herewith, for completion of

Grace Creek WWTP Thickener Gear Drive Replacement

all of such work to be done as set out in full in said contract and the plans and specifications therein
referred to.

NOW, THEREFORE, if the said Contractor shall repair, replace and restore any and all
defects in or damages to said construction, occasioned by, and resulting within one (1) year from and
after the day of the acceptance of said work by said City of Longview from defects in materials
furnished by, or workmanship of the Contractor, in performing the work covered by said contract,
then this obligation shall become null and void, and shall be of no further force and effect; otherwise,
the same is to remain in full force and effect.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST/SEAL: (if a corporation)

WITNESS: (if not a corporation)

(Principal)

Name _____
Title _____

Name _____
Title _____
Date _____

(Full Name of Surety)

ATTEST/WITNESS:

Name _____
Title _____

Name _____
Title _____
Date _____

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GENERAL CONDITIONS OF AGREEMENT

1. DEFINITIONS OF TERMS

1.01 OWNER, CONTRACTOR AND ENGINEER. The OWNER, the CONTRACTOR, and the ENGINEER are those persons or organizations identified as such in the Agreement and are referred to throughout the contract Documents as if singular in number and masculine in gender. The term ENGINEER means the ENGINEER or his duly authorized representative. The ENGINEER shall be understood to be the ENGINEER of the OWNER, and nothing contained in the Contract Documents shall create any contractual or agency relationship between the ENGINEER and the CONTRACTOR.

1.02 CONTRACT DOCUMENTS. The Contract Documents shall consist of the Notice to Contractors (Advertisement), Special Conditions (Instructions to Bidders), Proposal, Signed Agreement, Performance and Payment Bonds (when required), Special Bonds (when required), General Conditions of the Agreement, Plans, Technical Specifications, and all modifications thereof incorporated in any of the documents before the execution of the agreement.

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. In case of conflict between any of the Contract Documents, priority of interpretation shall be in the following order: Signed Agreement, Performance and Payment Bonds, Special Bonds (if any), Proposal, Special Conditions of Agreement, Notice to Contractors, Technical Specifications, Plans, and General Conditions of Agreement.

1.03 SUB-CONTRACTOR. The term Sub-Contractor, as employed herein, includes only those having a direct contract with the CONTRACTOR and it includes one who furnished material worked to a special design according to the plans or specifications of this work, but does not include one who merely furnished material not so worked.

1.04 WRITTEN NOTICE. Written notice shall be deemed to have been duly served if 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, delivered by electronic fax, or if delivered at or sent by registered mail to the last business address known to him who gives the notice.

1.05 WORK. The CONTRACTOR shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, light, power, fuel, transportation and other facilities necessary for the execution and completion of the work covered by the contract documents. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of a good quality. The CONTRACTOR shall, if required, furnish satisfactory evidence as to the kind and quality of materials. Materials or work described in words which so applied have a well known technical or trade meaning shall be held to refer to such recognized standards.

1.06 EXTRA WORK. The term "Extra Work" as used in this contract shall be understood to mean and include all work that may be required by the ENGINEER or OWNER to be done by the CONTRACTOR to accomplish any change, alteration or addition to the work shown upon the plans, or reasonably implied by the specifications, and not covered by the CONTRACTOR'S proposal, except as provided under "Changes and Alterations", herein.

1.07 WORKING DAY. A “Working Day” is defined as any day not including Saturdays, Sundays or any legal holidays, in which weather or other conditions, not under the control of the CONTRACTOR, will permit construction of the principal units of the work for a period of not less than seven (7) hours between 7:00 a.m. and 6:00 p.m.

1.08 CALENDAR DAY. “Calendar Day” is any day of the week or month, no days being excepted.

1.09 SUBSTANTIALLY COMPLETED. By the term “substantially completed” is meant that the structure has been made suitable for use or occupancy or the facility is in condition to serve its intended purpose, but still may require minor miscellaneous work and adjustment.

2. RESPONSIBILITIES OF THE ENGINEER AND THE CONTRACTOR.

2.01 OWNER-ENGINEER RELATIONSHIP. The ENGINEER will be the OWNER’S representative during construction. The duties, responsibilities and limitations of authority of the ENGINEER as the OWNER’S representative during construction are as set forth in the Contract Documents and shall not be extended or limited without written consent of the OWNER and ENGINEER. The ENGINEER will advise and consult with the OWNER, and all of OWNER’S instructions to the CONTRACTOR shall be issued through the ENGINEER.

2.02 PROFESSIONAL INSPECTION BY ENGINEER. The ENGINEER shall make periodic visits to the site to familiarize himself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract documents; provided and except, however, that the ENGINEER shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this agreement or any other contract document, the ENGINEER shall not be in any way responsible or liable for any acts, errors, omissions, or negligence of the CONTRACTOR, any subcontractor or any of the CONTRACTOR’S or subcontractor’s agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

2.03 PAYMENTS FOR WORK. The ENGINEER shall review CONTRACTOR’S applications for payment and supporting data, determine the amount owed to the CONTRACTOR and recommend to OWNER, in writing, payment to CONTRACTOR in such amounts. Such recommendation of payment of CONTRACTOR’S application for payment constitutes a representation to the OWNER of ENGINEER’S professional judgement that the work has progressed to the point indicated to the best of his knowledge, information and belief, but such recommendation of payment of an application for payment to CONTRACTOR shall not be deemed as a representation by ENGINEER that ENGINEER has made any examination to determine how or for what purpose CONTRACTOR has used the moneys paid on account of the Contract price. Further, ENGINEER’S determination of the amount owed to the CONTRACTOR and recommendation of payment shall both be advisory only and shall not be binding upon OWNER.

2.04 DISPUTE DETERMINATIONS. The ENGINEER initially shall determine all claims, disputes and other matters in question between the CONTRACTOR and the OWNER relating to

the execution or progress of the work or the interpretation of the Contract Documents and the ENGINEER'S decision shall be rendered in writing within a reasonable time.

2.05 LINES AND GRADES. Unless otherwise specified, all lines and grades shall be furnished by the ENGINEER or his representative. Whenever necessary, construction work shall be suspended to permit performance of this work, but such suspension will be as brief as practicable and the CONTRACTOR shall be allowed no extra compensation therefor. The CONTRACTOR shall give the ENGINEER ample notice of the time and place where lines and grades will be needed. All stakes, marks, etc., shall be carefully preserved by the CONTRACTOR, and in case of careless destruction or removal by him or his employees, such stakes, marks, etc., shall be replaced at the CONTRACTOR'S expense.

2.06 CONTRACTOR'S DUTY AND SUPERINTENDENCE. The CONTRACTOR shall give adequate attention to the faithful prosecution and completion of this contract and shall keep on the work, during its progress, a competent superintendent and any necessary assistants. The superintendent shall represent the CONTRACTOR in his absence and all directions given to him shall be as binding as if given to the CONTRACTOR.

The CONTRACTOR is and at all times shall remain an independent contractor, solely responsible for the manner and method of completing his work under this contract, with full power and authority to select the means, method and manner of performing such work, so long as such methods do not adversely affect the completed improvements, the OWNER and ENGINEER being interested only in the result obtained and conformity of such completed improvements to the plans, specifications and contract.

Likewise, the CONTRACTOR shall be solely responsible for the safety of himself, his employees and other persons, as well as for the protection of the safety of the improvements being erected and the property of himself or any other person, as a result of his operations hereunder. Engineering construction drawings and specifications as well as any additional information concerning the work to be performed passing from or through the ENGINEER shall not be interpreted as requiring or allowing CONTRACTOR to deviate from the plans and specifications, the intent of such drawings, specifications and any other such instructions being to define with particularity the agreement of the parties as to the work the CONTRACTOR is to perform. CONTRACTOR shall be fully and completely liable, at his own expense, for design, construction, installation and use, or non-use, of all items and methods incident to performance of the contract, and for all loss, damage or injury incident thereto, either to person or property, including, without limitation, the adequacy of all temporary supports, shoring, bracing, scaffolding, machinery or equipment, safety precautions or devices, and similar items or devices used by him during construction.

Any review of work in process, or any visit or observation during construction, or any clarification of plans and specifications, by the ENGINEER, or any agent, employee, or representative of either of them, whether through personal observation on the project site or by means of approval of shop drawings for temporary construction or construction processes, or by other means or method, is agreed by the CONTRACTOR to be for the purpose of observing the extent and nature of work completed or being performed, as measured against the drawings and specifications constituting the contract, or for the purpose of enabling CONTRACTOR to more fully understand the plans and specifications so that the completed construction work will conform thereto, and shall in no way relieve the CONTRACTOR from full and complete responsibility for the proper performance of his work on the project, including but without limitation the propriety

of means and methods of the CONTRACTOR in performing said contract, and the adequacy of any designs, plans or other facilities for accomplishing such performance. Deviation by the CONTRACTOR from plans and specifications that may have been in evidence during any such visitation or observation by the ENGINEER, or any of his representatives, whether called to the CONTRACTOR'S attention or not shall in no way relieve CONTRACTOR from his responsibility to complete all work in accordance with said plans and specifications.

2.07 CONTRACTOR'S UNDERSTANDING. It is understood and agreed that the CONTRACTOR has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this contract. No verbal agreement or conversation with any officer, agent or employee of the OWNER or ENGINEER either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.

2.08 CHARACTER OF WORKMEN. The CONTRACTOR agrees to employ only orderly and competent men, skillful in the performance of the type of work required under this contract, to do the work; and agrees that whenever the ENGINEER shall inform him in writing that any man or men on the work are, in his opinion, incompetent, unfaithful or disorderly, such man or men shall be discharged from the work and shall not again be employed on the work without the ENGINEER'S written consent.

2.9 CONTRACTOR'S BUILDINGS. The building of structures for housing men, or the erection of tents or other forms of protection, will be permitted only at such places as the ENGINEER shall direct, and the sanitary conditions of the grounds in or about such structures shall at all times be maintained in a manner satisfactory to the ENGINEER.

2.10 SANITATION. Necessary conveniences for the use of laborers on the work, properly secluded from public observation, shall be constructed and maintained by the CONTRACTOR in such manner and at such points as shall be approved by the ENGINEER, and their use shall be strictly enforced.

2.11 SHOP DRAWINGS. The CONTRACTOR shall submit to the ENGINEER, with such promptness as to cause no delay in his own work or in that of any other Contractor, four checked copies, unless otherwise specified, of all shop and/or setting drawings and schedules required for the work of the various trades, and the ENGINEER shall pass upon them with reasonable promptness, making desired corrections. The CONTRACTOR shall make any corrections required by the ENGINEER, file with him two corrected copies and furnish such other copies as may be needed. The ENGINEER'S approval of such drawings or specification, unless he has in writing called the ENGINEER'S attention to such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings or schedules. It shall be the CONTRACTOR'S responsibility to fully and completely review all shop drawings to ascertain their effect on his ability to perform the required contract work in accordance with the plans and specifications and within the contract time.

Such review by the ENGINEER shall be for the sole purpose of determining the sufficiency of said drawings or schedules to result in finished improvements in conformity with the plans and specifications, and shall not relieve the CONTRACTOR of his duty as an independent contractor as previously set forth, it being expressly understood and agreed that the ENGINEER does not

assume any duty to pass upon the propriety or adequacy of such drawings or schedules, or any means or methods reflected thereby, in relation to the safety of either person or property during CONTRACTOR'S performance hereunder.

2.12 PRELIMINARY APPROVAL. The ENGINEER shall not have the power to waive the obligations of this contract for the furnishing by the CONTRACTOR of good material, and of his performing good work as herein described, and in full accordance with the plans and specifications. No failure or omission of the ENGINEER to discover, object to or condemn any defective work or material shall release the CONTRACTOR from the obligations to fully and properly perform the contract, including without limitations, the obligation to at once tear out, remove and properly replace the same at any time prior to final acceptance upon the discovery of said defective work or material; provided, however, that the ENGINEER shall, upon request of the CONTRACTOR, inspect and accept or reject any material furnished, and in event the material has been once accepted by the ENGINEER, such acceptance shall be binding on the OWNER, unless it can be clearly shown that such material furnished does not meet the specifications for this work.

Any questioned work may be ordered taken up or removed for re-examination, by the ENGINEER, prior to final acceptance, and if found not in accordance with the specifications for said work, all expense of removing, re-examination and replacement shall be borne by the CONTRACTOR, otherwise the expense thus incurred shall be allowed as EXTRA WORK, and shall be paid for by the OWNER; provided that, where inspection or approval is specifically required by the specifications prior to performance of certain work, should the CONTRACTOR proceed with such work without requesting prior inspection or approval he shall bear all expense of taking up, removing, and replacing this work if so directed by the ENGINEER.

2.13 DEFECTS AND THEIR REMEDIES. It is further agreed that if the work or any part thereof, or any material brought on the site of the work for use in the work or selected for the same, shall be deemed by the ENGINEER as unsuitable or not in conformity with the specifications, the CONTRACTOR shall, after receipt of written notice thereof from the ENGINEER, forthwith remove such material and rebuild or otherwise remedy such work so that it shall be in full accordance with this contract.

2.14 CHANGES AND ALTERATIONS. The CONTRACTOR further agrees that the OWNER may make such changes and alterations as the OWNER may see fit, in the line, grade, form, dimensions, plans or materials for the work herein contemplated, or any part thereof, either before or after the beginning of the construction, without affecting the validity of this contract and the accompanying Performance, Payment, and Maintenance Bonds.

If such changes or alterations diminish the quality of the work to be done, they shall not constitute the basis for a claim for damages, or anticipated profits on the work that may be dispensed with, except as provided for unit price items under Section 5 "Measurement and Payment." If the amount of work is increased, and the work can fairly be classified under the specifications, such increase shall be paid for according to the quantity actually done and at the unit price, if any, established for such work under this contract, except as provided for unit price items under Section 5 "Measurement and Payment;" otherwise, such additional work shall be paid for as provided under Extra Work. In case the OWNER shall make such changes or alterations as shall make useless any work already done or material already furnished or used in said work, then the OWNER shall recompense the CONTRACTOR for any material or labor so used, and for any actual loss occasioned by such change, due to actual expenses incurred in preparation for the work

as originally planned.

3. GENERAL OBLIGATIONS AND RESPONSIBILITIES

3.01 KEEPING PLANS AND SPECIFICATIONS ACCESSIBLE. The ENGINEER shall furnish the CONTRACTOR with an adequate and reasonable number of copies of all plans and specifications without expense to him, and the CONTRACTOR shall keep one copy of the same constantly accessible on the work, with the latest revisions noted thereon.

3.02 OWNERSHIP OF DRAWINGS. All drawings, specifications and copies thereof furnished by the ENGINEER shall not be reused on other work, and, with the exception of the signed contract sets, are to be returned to him on request, at the completion of the work. All models are the property of the OWNER.

3.03 ADEQUACY OF DESIGN. It is understood that the OWNER believes it has employed competent engineers and designers. It is, therefore, agreed that the OWNER shall be responsible for the adequacy of the design, sufficiency of the Contract Documents, the safety of the structure and the practicability of the operations of the completed project; provided the CONTRACTOR has complied with the requirements of the said Contract Documents, all approved modifications thereof, and additions and alterations thereto approved in writing by the OWNER. The burden of proof of such compliance shall be upon the CONTRACTOR to show that he has complied with the said requirements of the Contract Documents, approved modifications thereof and all approved additions and alterations thereto.

3.04 RIGHT OF ENTRY. The OWNER reserves the right to enter the property or location on which the works herein contracted for are to be constructed or installed, by such agent or agents as he may elect, for the purpose of inspecting the work, or for the purpose of constructing or installing such collateral work as said OWNER may desire.

3.05 COLLATERAL CONTRACTS. The OWNER agrees to provide by separate contract or otherwise, all labor and material essential to the completion of the work specifically excluded from this contract, in such manner as not to delay the progress of the work, or damage said CONTRACTOR, except where such delays are specifically mentioned elsewhere in the Contract Documents.

3.06 DISCREPANCIES AND OMISSIONS. It is further agreed that it is the intent of this contract that all work must be done and all material must be furnished in accordance with the generally accepted practice, and in the event of any discrepancies between the separate contract documents, the priority of interpretation defined under "Contract Documents" shall govern. In the event that there is still any doubt as to the meaning and intent of any portion of the contract, specifications or drawings, the ENGINEER shall define which is intended to apply to the work.

3.07 EQUIPMENT, MATERIALS AND CONSTRUCTION PLANT. The CONTRACTOR shall be responsible for the care, preservation, conservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, facilities, all means of construction, and any and all parts of the work, whether the CONTRACTOR has been paid, partially paid, or not paid for such work, until the entire work is completed and accepted.

3.08 DAMAGES. In the event the OWNER is damaged in the course of the work by the act, negligence, omission, mistake or default of the CONTRACTOR, or should the CONTRACTOR

unreasonably delay the progress of the work being done by others on the job so as to cause loss for which the OWNER becomes liable, then the CONTRACTOR shall reimburse the OWNER for such loss.

3.09 PROTECTION AGAINST ACCIDENT TO EMPLOYEES AND THE PUBLIC.

The CONTRACTOR shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provisions of Federal, State, and Municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America except where incompatible with Federal, State, or Municipal laws or regulations. The CONTRACTOR shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the CONTRACTOR, acting at his discretion as an independent contractor.

3.10 PERFORMANCE, PAYMENT & MAINTENANCE BONDS. Unless otherwise specified, it is further agreed by the parties to this Contract that the CONTRACTOR will execute separate performance, payment, and maintenance bonds, each in the sum of one hundred (100) percent of the total contract price, in standard forms for this purpose, guaranteeing faithful performance of the work and the fulfillment of any guarantees required, and further guaranteeing payment to all persons supplying labor and materials or furnishing him any equipment in the execution of the contract, and it is agreed that this Contract shall not be in effect until such performance, payment, and maintenance bonds are furnished and approved by the OWNER.

Unless otherwise approved in writing by the OWNER, the surety company underwriting the bonds shall be acceptable according to the latest list of companies holding certificates of authority from the Secretary of the Treasury of the United States.

Unless otherwise specified, the cost of the premium for the performance and payment bonds shall be included in the CONTRACTOR'S proposal

3.11 LOSSES FROM NATURAL CAUSES. Unless otherwise specified, all loss or damage to the CONTRACTOR arising out of the nature of the work to be done, or from the action of the elements, or from any unforeseen circumstance in the prosecution of the same, or from unusual obstructions or difficulties which may be encountered in the prosecution of the work, shall be sustained and borne by the CONTRACTOR at his own cost and expense.

3.12 PROTECTION OF ADJOINING PROPERTY. The said CONTRACTOR shall take proper means to protect the adjacent or adjoining property or properties in any way encountered, which might be injured or seriously affected by any process of construction to be undertaken under this Agreement, from any damage or injury by reason of said process of construction; and he shall be liable for any and all claims for such damage on account of his failure to fully protect all adjoining property. The CONTRACTOR agrees to indemnify, save and hold harmless the OWNER and ENGINEER against any claim or claims for damages due to any injury to any adjacent or adjoining property, arising or growing out of the performance of the contract; but any such indemnity shall not apply to any claim of any kind arising out of the existence or character of the work.

3.13 PROTECTION AGAINST CLAIMS OF SUB-CONTRACTORS, LABORERS, MATERIALMEN AND FURNISHERS OF MACHINERY, EQUIPMENT AND SUPPLIES. The CONTRACTOR agrees that he will indemnify and save the OWNER and ENGINEER harmless from all claims growing out of the lawful demands of sub-contractors, laborers, workmen, mechanics, materialmen and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. When so desired by the OWNER, the CONTRACTOR shall furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged or waived. If the CONTRACTOR fails so to do, then the OWNER may at the option of the CONTRACTOR either pay directly any unpaid bills of which the OWNER has written notice, or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to liquidate any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged, whereupon payments to the CONTRACTOR shall be resumed in full, in accordance with the terms of this contract, but in no event shall the provisions of this sentence be construed to impose any obligation upon the OWNER by either the CONTRACTOR or his Surety.

3.14 PROTECTION AGAINST ROYALTIES OR PATENTED INVENTION. The CONTRACTOR shall pay all royalties and license fees, and shall provide for the use of any design, device, material or process covered by letters patent or copyright by suitable legal agreement with the patentee or owner. The CONTRACTOR shall defend all suits or claims for infringement of any patent or copyright rights and shall indemnify and save the OWNER and ENGINEER harmless from any loss on account thereof, except that the OWNER shall defend all such suits and claims and shall be responsible for all such loss when a particular design, device, material or process or the product of a particular manufacturer or manufacturers is specified or required by the OWNER; provided, however, if choice of alternate design, device, material or process is allowed to the CONTRACTOR, then CONTRACTOR shall indemnify and save OWNER harmless from any loss on account thereof. If the material or process specified or required by the OWNER is an infringement, the CONTRACTOR shall be responsible for such loss unless he promptly gives such information to the OWNER.

3.15 LAWS AND ORDINANCES. The CONTRACTOR shall at all times observe and comply with all Federal, State and local laws, ordinances and regulations, which in any manner affect the contract or the work, and shall indemnify and save harmless the OWNER and ENGINEER against any claim arising from the violation of any such laws, ordinances, and regulations whether by the CONTRACTOR or his employees, except where such violations are called for by the provisions of the contract Documents. If the CONTRACTOR observes that the plans and specifications are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the work. If the CONTRACTOR performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he shall bear all costs arising therefrom. In case the OWNER is a body politic and corporate, the law from which it derives its powers, insofar as the same regulates the objects for which, or the manner in which, or the conditions under which the OWNER may enter into contract, shall be controlling, and shall be considered as part of this contract, to the same effect as though embodied herein.

3.16 ASSIGNMENT AND SUBLETTING. The CONTRACTOR further agrees that he will retain personal control and will give his personal attention to the fulfillment of this contract and that he will not assign by Power of Attorney, or otherwise, or sublet said contract without the written consent of the ENGINEER, and that no part or feature of the work will be sublet to anyone

objectionable to the ENGINEER or the OWNER. The CONTRACTOR further agrees that the subletting of any portion or feature of the work, or materials required in the performance of this contract, shall not relieve the CONTRACTOR from his full obligations to the OWNER, as provided by this Agreement.

3.17 INDEMNIFICATION. The CONTRACTOR shall defend, indemnify and hold harmless the OWNER and the ENGINEER and their respective officers, agents and employees, from and against all damages, claims, losses, demands, suits, judgments and costs, including reasonable attorneys' fees and expenses, arising out of or resulting from the performance of the work, provided that any such damages, claim, loss, demand, suit, judgment, cost or expense:

- (1) is attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom; and,
- (2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any one of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

The obligation of the CONTRACTOR under this Paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, drawings, reports, surveys, Change Orders, designs or specifications, or the giving of or the failure to give directions or instructions by the ENGINEER, his agents or employees, provided such giving or failure to give is the primary cause of the injury or damage.

3.18 INSURANCE. The CONTRACTOR at his own expense shall purchase, maintain and keep in force such insurance as will protect him from claims set for the below which may arise out of or result from the CONTRACTOR'S operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- (1) workmen's compensation claims, disability benefits and other similar employee benefit acts;
- (2) claims for damages because of bodily injury, personal injury, occupational sickness or disease, or death of his employees, and claims insured by usual bodily injury liability coverages;
- (3) claims for damages because of bodily injury, personal injury, sickness or disease, or death of any person other than his employees, and claims insured by usual bodily injury liability coverages; and
- (4) claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

3.18.1 CERTIFICATE OF INSURANCE. Before commencing any of the work, CONTRACTOR shall file with the OWNER valid Certificates of Insurance acceptable to the OWNER and the ENGINEER. Such Certificates shall contain a provision that coverages afforded under the policies will not be canceled until at least ten days prior written notice has been given to the OWNER.

The CONTRACTOR shall also file with the OWNER valid Certificates of Insurance covering
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all sub-contractors.

4. PROSECUTION AND PROGRESS

4.01 TIME AND ORDER OF COMPLETION. It shall be the responsibility of the CONTRACTOR to commence work within ten(10) days after the date of written notice to proceed, and to diligently prosecute the project to completion within the time set out herein. This responsibility to proceed diligently shall not be interpreted as OWNER'S right to dictate CONTRACTOR'S order of precedence in performance of the work; provided, however, that the order and the time of prosecution shall be such that the work shall be substantially completed as a whole and in part, in accordance with this contract, the plans and specifications, and within the time of completion designated in the Proposal; provided, also, that when the OWNER is having other work done, either by contract or by his own force, the ENGINEER may direct the time and manner of constructing the work done under this contract, so that conflict will be avoided and the construction of the various works being done for the OWNER shall be harmonized.

The CONTRACTOR shall submit, at such times as may reasonably be requested by the ENGINEER, schedules which shall show the order in which the CONTRACTOR proposes to carry on the work, with dates at which the CONTRACTOR will start the several parts of the work, and estimated dates of completion of the several parts.

4.02 EXTENSION OF TIME. Should the CONTRACTOR be delayed in the completion of the work by any act or neglect of the OWNER or ENGINEER, or of any employee of either, or by other contractors employed by the OWNER, or by changes ordered in the work, or by strikes, lockouts, fires, and unusual delays by common carriers, or unavoidable cause or causes beyond the CONTRACTOR'S control, or by any cause which the ENGINEER shall decide justifies the delay, then an extension of time shall be allowed for completing the work, sufficient to compensate for the delay, the amount of the extension to be determined by the ENGINEER, provided, however, that the CONTRACTOR shall give the ENGINEER prompt notice in writing of the cause of such delay.

4.03 HINDRANCES AND DELAYS. No claims shall be made by the CONTRACTOR for damages resulting from hindrances or delays from any cause (except where the work is stopped by order of the OWNER) during the progress of any portion of the work embraced in this contract. In case said work shall be stopped by the act of the OWNER, then such expense as in the judgment of the ENGINEER is caused by such stoppage of said work shall be paid by the OWNER to the CONTRACTOR; provided, however, that OWNER shall not be responsible for damages attributable to work stoppages by OWNER in the instance of CONTRACTOR'S failure to timely perform as set out in Paragraph 7 of these General Conditions.

5. MEASUREMENT AND PAYMENT

5.01 QUANTITIES AND MEASUREMENTS. No extra or customary measurements of any kind will be allowed, but the actual measured and/or computed length, area, solid contents, number and weight only shall be considered, unless otherwise specifically provided.

5.02 ESTIMATED QUANTITIES. This agreement, including the specifications, plans and estimate, is intended to show clearly all work to be done and material to be furnished hereunder.

where the estimated quantities are shown for the various classes of work to be done and material to be furnished under this contract, they are approximate and are to be used only as a basis for estimating the probable cost of the work and for comparing the proposals offered for the work. It is understood and agreed that the actual amount of work to be done and material to be furnished under this contract may differ somewhat from these estimates, and that where the basis for payment under this contract is the unit price method, payment shall be for the actual amount of such work done and the material furnished.

Where payment is based on the unit price method, the CONTRACTOR agrees that he will make no claim for damages, anticipated profits or otherwise on account of any differences which may be found between the quantities of work actually done, the material actually furnished under this contract and the estimated quantities contemplated and contained in the proposal; provided, however, that in case the actual quantity of any major item should become as much as 20% more than, or 20% less than the estimated or contemplated quantity for such items, than either party to this Agreement, upon demand, shall be entitled to a revised consideration upon the portion of the work above or below 20% of the estimated quantity.

A "Major Item" shall be construed to be any individual bid item incurred in the proposal that has a total cost equal to or greater than five(5) percent of the total contract cost, computed on the basis of the proposal quantities and the contract unit prices.

Any revised consideration is to be determined by agreement between the parties, otherwise by the terms of this Agreement, as provided under "Extra Work".

5.03 PRICE OF WORK. In consideration of the furnishing of all the necessary labor, equipment and material, and the completion of all work by the CONTRACTOR, and on the completion of all work and of the delivery of all material embraced in this Contract in full conformity with the specifications and stipulations herein contained, the OWNER agrees to pay the CONTRACTOR the prices set forth in the Proposal hereto attached, which has been made a part of this contract. The CONTRACTOR hereby agrees to receive such prices in full for furnishing all material and all labor required for the aforesaid work, also for all expense incurred by him, and for well and truly performing the same and the whole thereof in the manner and according to this Agreement.

5.04 PARTIAL PAYMENTS. On or before the 10th day of each month, the CONTRACTOR shall prepare and submit to the ENGINEER a statement showing as completely as practicable the total value of the work done by the CONTRACTOR up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the work that are to be fabricated into the work. The ENGINEER shall review said statement and recommend to the OWNER approval, modification or rejection of same.

Within 30 consecutive calendar days after approval of the aforesaid statement by the OWNER, the OWNER shall pay the CONTRACTOR the total amount of the approved statement, less 10 percent of the amount thereof, which 10 percent shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the OWNER under the terms of this Agreement. It is understood, however, that in case the whole work be near to completion and some unexpected and unusual delay occurs due to no fault or neglect on the part of the CONTRACTOR, the OWNER may, upon written recommendation of the ENGINEER, pay a reasonable and equitable portion of the retained percentage to the CONTRACTOR; or the CONTRACTOR at the OWNER'S option, may be relieved of the obligation to fully complete the

work and, thereupon, the CONTRACTOR shall receive payment of the balance due him under the contract subject only to the conditions stated under “Final Payment”.

5.05 USE OF COMPLETED PORTIONS. The OWNER shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions may not have expired but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the work, the CONTRACTOR shall be entitled to such extra compensation, or extension of time, or both, as the ENGINEER may determine.

The CONTRACTOR shall notify the ENGINEER when, in the CONTRACTOR’S opinion, the contract is “substantially completed” and when so notifying the ENGINEER, the CONTRACTOR shall furnish to the ENGINEER in writing a detailed list of unfinished work. The ENGINEER will review the CONTRACTOR’S list of unfinished work and will add thereto such items as the CONTRACTOR has failed to include. The “substantial completion” of the structure or facility shall not excuse the CONTRACTOR from performing all of the work undertaken, whether of a minor or major nature, and thereby completing the structure or facility in accordance with the Contract Documents.

5.06 FINAL COMPLETION AND ACCEPTANCE. Within ten(10) days after the CONTRACTOR has given the ENGINEER written notice that the work has been completed, or substantially completed, the ENGINEER and the OWNER shall inspect the work and within said time, if the work is found to be completed or substantially completed in accordance with the Contract Documents, the ENGINEER shall issue to the OWNER and the CONTRACTOR his Certificate of Completion, and thereupon shall place the project on the next available City Council agenda for final acceptance and approval of final payment.

5.07 FINAL PAYMENT. Upon the issuance of the Certificate of Completion, the ENGINEER shall proceed to make final measurements and prepare final statement of the value of all work performed and materials furnished under the terms of the Agreement and shall certify same to the OWNER, who shall pay to the CONTRACTOR, within 30 consecutive calendar days after formal acceptance of the completed project by the City Council, the balance due the CONTRACTOR under the terms of this Agreement, provided he has fully performed his contractual obligations under the terms of this contract; and said payment shall be come due in any event upon said performance by the CONTRACTOR. Neither the Certificate of Acceptance nor the final payment, nor any provision in the contract Documents, shall relieve the CONTRACTOR of the obligation for fulfillment of any warranty which may be required.

5.08 PAYMENTS WITHHELD. The OWNER may, on account of subsequently discovered evidence, withhold or nullify the whole or part of any certificate to such extent as may be necessary to protect himself from loss on account of:

- (a) defective work not remedied
- (b) claims filed or reasonable evidence indicating probable filing of claims
- (c) failure of the CONTRACTOR to make payments properly to subcontractors or for material or labor
- (d) damage to another contractor
- (e) reasonable doubt that the work can be completed for the unpaid balance of the contract amount
- (f) reasonable indication that the work will not be completed within the contract time

When the above grounds are removed or the CONTRACTOR provides a Surety Bond satisfactory to the OWNER, which will protect the OWNER in the amount withheld, payment shall be made for amounts withheld because of them.

5.09 DELAYED PAYMENTS. Should the OWNER fail to make payment to the CONTRACTOR of the sum named in any partial or final statement, when payment is due, then the OWNER shall pay to the CONTRACTOR, in addition to the sum shown as due by such statement, interest thereon at the rate of six(6) percent per annum, unless otherwise specified, from date due as provided under "Partial Payments" and "Final Payments", until fully paid, which shall fully liquidate any injury to the CONTRACTOR growing out of such delay in payment.

6. EXTRA WORK AND CLAIMS

6.01 CHANGE ORDERS. Without invalidating this Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions to the work; such changes will be authorized by Change Order to be prepared by the ENGINEER for execution by the OWNER and the CONTRACTOR. The Change Order shall set forth the basis for any change in contract price, as hereinafter set forth for Extra Work, and any change in contract time which may result from the change.

In the event the CONTRACTOR shall refuse to execute a Change Order which has been prepared by the ENGINEER and executed by the OWNER, the ENGINEER may in writing instruct the CONTRACTOR to proceed with the work as set for the in the Change Order and the CONTRACTOR may make claim against the OWNER for Extra Work involved therein, as hereinafter provided.

6.02 MINOR CHANGES. The ENGINEER may authorize minor changes in the work not inconsistent with the overall intent of the Contract Documents and not involving an increase in Contract Price. If the CONTRACTOR believes that any minor change or alteration authorized by the ENGINEER involves Extra Work and entitles him to an increase in the Contract Price, the CONTRACTOR shall make written request to the ENGINEER for a written Field Order.

In such case, the CONTRACTOR by copy of his communication to the ENGINEER or otherwise in writing shall advise the OWNER of his request to the ENGINEER for a written Field Order and that the work involved may result in an increase in the Contract Price.

Any request by the CONTRACTOR for a change in Contract Price shall be made prior to beginning the work covered by the proposed change.

6.03 EXTRA WORK. It is agreed that the basis of compensation to the CONTRACTOR for work either added or deleted by a Change Order or for which a claim for Extra Work is made shall be determined by one or more of the following methods:

Method (A): by agreed unit prices; or

Method (B): by agreed lump sum; or

Method (C): if neither Method (A) nor Method (B) be agreed upon before the Extra Work is commenced, then the CONTRACTOR shall be paid the "actual field cost" of the work, plus fifteen

(15) percent.

In the event said Extra Work be performed and paid for under Method (C), then the provisions of this paragraph shall apply and the “actual field cost” is hereby defined to include the cost to the CONTRACTOR of all workmen, such as foreman, timekeepers, mechanics and laborers, and materials, supplies, teams, trucks, rentals on machinery and equipment, for the time actually employed or used on such Extra Work, plus actual transportation charges necessarily incurred, together with all power, fuel, lubricants, water and similar operating expenses, also all necessary incidental expenses incurred directly on account of such Extra Work, including Social Security, Old Age Benefits, and other payroll taxes, and, a rateable proportion of premiums on Performance, Payment, and Maintenance Bonds, Public Liability and Property Damage and Workmen’s Compensation, and all other insurance as may be required by any law or ordinance, or directed by the OWNER, or by them agreed to. The ENGINEER may direct the form in which accounts of the “actual field cost” shall be kept and the records of these accounts shall be made available to the ENGINEER. The ENGINEER or OWNER may also specify in writing, before the work commences, the method of doing the work and the type and kind of machinery and equipment to be used; otherwise these matters shall be determined by the CONTRACTOR. Unless otherwise agreed upon, the prices for the use of machinery and equipment shall be determined by using 100 percent, unless otherwise specified, of the latest schedule of Equipment Ownership Expense adopted by the Associated General Contractors of America. Where practicable the terms and prices for the use of machinery and equipment shall be incorporated in the Written Extra Work Order. The fifteen (15%) percent of the “actual field cost” to be paid the CONTRACTOR shall cover and compensate him for his profit, overhead, general superintendence and field office expense, and all other elements of cost and expense not embraced within the “actual field cost” as herein defined, save that where the CONTRACTOR’S Camp or Field Office must be maintained primarily on account of such Extra work; then the cost to maintain and operate the same shall be included in the “actual field cost”.

No claim for Extra work of any kind will be allowed unless ordered in writing by the ENGINEER. In case any orders or instructions, either oral or written, appear to the CONTRACTOR to involve Extra Work for which he should receive compensation or an adjustment in the construction time, he shall make written request to the ENGINEER for written order authorizing such Extra Work. Should a difference of opinion arise as to what does or does not constitute Extra Work, or as to the payment therefor, and the ENGINEER insists upon its performance, the CONTRACTOR shall proceed with the work after making written request for written order and shall keep an accurate account of the “actual field cost” thereof, as provided under Method (C).

6.04 TIME OF FILING CLAIMS. It is further agreed by both parties hereto that all questions of dispute or adjustment presented by the CONTRACTOR shall be in writing and filed with the ENGINEER within thirty (30) days after the ENGINEER has given any directions, order or instruction to which the CONTRACTOR desires to take exception. The ENGINEER shall reply within thirty (30) days to such written exceptions by the CONTRACTOR and render his final decision in writing. It is further agreed that final acceptance of the work by the OWNER and the acceptance by the CONTRACTOR of the final payment shall be a bar to any claims by either party, except where noted otherwise in the Contract Documents. Contractor’s failure to timely comply with the time limitations set out herein shall waive any entitlement to dispute or adjustment.

7. CONTRACTOR'S TIMELY PERFORMANCE

7.01 CONTRACTOR'S OBLIGATION TO TIMELY PERFORM. In case the CONTRACTOR should abandon or otherwise fail or refuse to commence, continue, or resume work within ten (10) days after written notification from the OWNER, or the ENGINEER, or if the CONTRACTOR fails to comply with the orders of the ENGINEER, when such orders are consistent with the Contract Documents, then, and in that case, where performance and payment bonds exist, the Sureties on these bonds shall be notified in writing and directed to complete the work, and a copy of said notice shall be delivered to the CONTRACTOR.

7.02 OWNER'S IMMEDIATE REMEDY. After receiving said notice of failure to perform the CONTRACTOR shall not remove from the work any machinery, equipment, tools, materials, or supplies then on the job, but the same, together with any materials and equipment under contract for the work, may be held for use on the work by the OWNER or the Surety on the performance bond, or another contractor in completion of the work; and the CONTRACTOR shall not receive any rental or credit therefor (except when used in connection with extra work, where credit shall be allowed as provided for under Section 6, Extra Work and Claims), it being understood that the use of such equipment and materials will ultimately reduce the cost to complete the work and be reflected in the final settlement.

7.03 OWNER'S ADDITIONAL REMEDIES. Where there is no performance bond provided or in case the Surety should fail to commence compliance with the notice of failure to perform hereinbefore provided for, within ten (10) days after service of such notice, then the OWNER may provide for completion of the work in either of the following elective manners:

7.03.1 The OWNER may thereupon employ such force of men and use such machinery, equipment, tools, materials and supplies as said OWNER may deem necessary to complete the work and charge the expense of such labor, machinery, equipment, tools, materials and supplies to said CONTRACTOR, and expense so charged shall be deducted and paid by the OWNER out of such moneys as may be due, or that may thereafter at any time become due to the CONTRACTOR under and by virtue of this Agreement. In case such expense is less than the sum which would have been payable under this contract, if the same had been completed by the CONTRACTOR, then said CONTRACTOR shall receive the difference. In case such expense is greater than the sum which would have been payable under this contract, if the same had been completed by said CONTRACTOR, then the CONTRACTOR and/or his Surety shall pay the amount of such excess to the OWNER; or

7.03.2 In the instance of CONTRACTOR'S failure to perform in the commencement of the contract, and if bids remain outstanding and enforceable from the original bid process, OWNER may award the contract to the next qualified low bidder who will accept the contract. If all bids have expired or no qualified bidder will accept the work, then the OWNER under sealed bids, after five (5) days notice published one or more times in a newspaper having general circulation in the county of the location of the work, may let the contract for the completion of the work under substantially the same terms and conditions which are provided in this contract. In case any increase in cost to the OWNER under the new contract as compared to what would have been the cost under this contract, such increase shall be charged to the CONTRACTOR and the Surety shall be and remain bound therefor. However, should the cost to complete any such new contract prove to be less than what would have been the cost to compete under this contract, the CONTRACTOR and/or his Surety shall be credited therewith.

When the work has been substantially completed, the CONTRACTOR and his Surety shall be so notified and Certificates of Completion and Acceptance, as provided in Paragraph 5.06 hereinabove, shall be issued. A complete itemized statement of the contract accounts, certified to by the ENGINEER as being correct, shall then be prepared and delivered to the CONTRACTOR and his Surety, whereupon the CONTRACTOR and/or his Surety, or the OWNER as the case may be, shall pay the balance due as reflected by said statement, within fifteen (15) days after the date of such Certificate of Completion.

In the event the statement of accounts shows that the cost to complete the work is less than that which would have been the cost to the OWNER had the work been completed by the CONTRACTOR under the terms of this contract; or when the CONTRACTOR and/or his Surety shall pay the balance shown to be due by them to the OWNER, then all machinery, equipment, tools, materials, or supplies left on the site of the work shall be turned over to the CONTRACTOR and/or his Surety. Should the cost to complete the work exceed the contract price, and the CONTRACTOR and/or his Surety fail to pay the amount due the OWNER within the time designated hereinabove, and there remains any machinery, equipment, tools, materials, or supplies on the site of the work, notice thereof, together with an itemized list of such equipment and materials, shall be mailed to the CONTRACTOR and his Surety at the respective addresses designated in this contract, provided, however, that actual written notice given in any manner will satisfy this condition. After mailing, or other giving of such notice, such property shall be held at ordinary care to protect such property. After fifteen (15) days from the date of said notice the OWNER may sell such machinery, equipment, tools, materials, or supplies and apply the net sum derived from such sale to the credit of the CONTRACTOR and his Surety. Such sale may be made at either public or private sale, with or without notice, as the OWNER may elect. The OWNER shall release any machinery, equipment, tools, materials, or supplies, which remain on the work, and belong to persons other than the CONTRACTOR or his Surety, to their proper owners. The books on all operations provided herein shall be open to the CONTRACTOR and his Surety.

7.04 The remedies set herein for CONTRACTOR'S failure to timely perform shall not be exclusive; OWNER shall be entitled to exercise any and all other remedies under this contract or available to OWNER at law or in equity, in the event of CONTRACTOR'S failure to timely perform.

SPECIAL CONDITIONS OF AGREEMENT

- SP-1. LINES AND GRADES. The construction plans include a horizontal control line (baseline) and vertical control points (bench marks). These have been established in the field and will be re-established or shown to the Contractor prior to commencing construction. After construction has started, the Contractor shall be responsible for protecting and preserving these controls. From these controls, the Contractor shall stake all alignments for the work and will be responsible for all horizontal and vertical construction staking.
- SP-2. SUPERINTENDENCE. The Contractor or his appointed Superintendent(s) shall provide proper superintendence for this entire project. Correspondence, questions concerning the project, interpretations and instructions shall be to or through the Contractor or the Superintendent. The Engineer will not in any manner supervise the Contractor's workmen or subcontractors. The Contractor or his Superintendent shall be on the job site whenever work is in progress.
- SP-3. PROJECT MAINTENANCE. The project area shall be maintained by the Contractor in a neat, passable condition. Vehicular access shall be maintained to every house and adjacent property. The Contractor shall provide a crew to maintain streets and driveways during holidays and weekends for the period of this contract.
- SP-4. EXTENSION OF TIME. The Contractor may make written request for an extension of time because of acts of God, acts of war, strikes, or unavailability of materials because of failure of the manufacturer or transporter. The Contractor shall support, by written evidence, any claim for a time extension because of any delay in receipt of material. An extension of time will not be granted for normal material delivery times, or failure of the Contractor to act properly toward the timely completion of the project.
- Upon written request, additional contract time will be granted only for the number of days that exceed the National Climatic Data Center's historical average number of days of rainfall of 0.1". Rain days shall be defined as a day with 0.1" or more of measured rainfall, as measured at the Gregg County Airport.
- SP-5. INSURANCE. The Contractor shall not commence work under this contract until he has obtained at his expense all insurance required under this section of the Special Provisions and by the Contract Documents and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on any subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Such insurance shall remain in full force and effect on all phases of the work, whether or not the work is

occupied or utilized by the Owner, until all work under the Contract is completed and has been accepted by the Owner.

Nothing contained in the insurance requirements shall be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from his operations under the Contract.

Any insurance bearing an adequacy of performance will be maintained after completion of the project for the full guarantee period.

The Contractor shall obtain and maintain for the full period of the Contract the following types of insurance in the form, minimum limits and amounts herein specified or as may be otherwise required in the Contract Documents. The Contractor shall automatically renew any policy which expires during the performance of his Contract and notify the Owner and Engineer of such a renewal prior to expiration date.

A. Workmen's Compensation including Occupational Disease, and Employer's Liability Insurance.

Definitions:

Certificate of coverage ("certificate") - a copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project - includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractor" in 406.096) - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor,

transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

The contractor shall provide coverage, on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

1. a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
2. no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

1. provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;
2. provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
3. provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
4. obtain from each other person with whom it contracts, and provide to the contractor:
 - (a) a certificate of coverage, prior to the other person beginning work on the project, and
 - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
5. retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
6. notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
7. contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificate of coverage to be provided to the person for whom they are providing services.

By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the

project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

B. Public Liability Insurance. (Note "Indemnity" clause hereinafter). Before commencement of the work, the Contractor shall submit written evidence that he and all his subcontractors have obtained for the period of the Contract full Comprehensive General Liability Insurance coverage. This coverage shall protect the Contractor; the Owner; the Engineer, its architects and engineers; and each of their officers, agents and employees from claims for damages for bodily or personal injury, sickness or disease, including death, and from claims for damages to property, which may arise directly or indirectly out of, or in connection with the performance of work under this Contract by the Contractor, by any of his subcontractors, or by anyone directly or indirectly employed of either of them, or under the control of either of them, and the minimum amount of such insurance shall be as follows unless higher minimum amounts are otherwise required in the Contract Documents:

Public Liability Insurance in an amount not less than One Million Dollars (\$1,000,000) for damages arising out of bodily or personal injury, sickness or disease, or death of one person and subject to the same limit for each person in an amount not less than One Million Dollars (\$1,000,000) in any one occurrence; and property damage in an amount not less than One Million Dollars (\$1,000,000) for all single combined damages arising out of injury to or destruction of property of others in any one occurrence with an aggregate limit in the same amount.

The Property Damage portion of this coverage shall include explosion, collapse and underground exposure coverage. In addition, where Completed Operation Insurance coverage is applicable, such coverage will be maintained after completion and acceptance of the project for the full guarantee period.

C. Automobile Liability Insurance: Before commencement of the work, the Contractor shall submit written evidence that he and all his subcontractors have obtained Automobile Liability Insurance coverage on all self-propelled vehicles designed for travel on public roads used in connection with the Contract, whether owned, non-owned, or hired. The liability limits shall not be less than Two Hundred Fifty Thousand Dollars (\$250,000) for injury or death of one person and in an amount not less than Five Hundred Thousand Dollars (\$500,000) in any one occurrence; and Property Damage limits of not less than One Hundred Thousand Dollars (\$100,000) in any one occurrence.

D. Contractual Liability Coverage: Each and every policy for Liability Insurance carried by each Contractor and Subcontractor will include a "Contractual Liability Coverage" endorsement sufficiently broad to insure the provision titled "Indemnity" hereinafter set forth.

E. Indemnity: The Contractor shall defend, indemnify and hold harmless the Owner; the Engineer, its Engineers; and each of their officers, agents, servants, and employees; from any and all suits, actions, claims, losses or damage of any character and from all expenses incidental to the defense of such suits, actions or claims, based upon or arising out of or alleged to be based upon or arising out of (1) any injury, disease, sickness or death of any person or persons, (2) any damages to any property including in part loss of use thereof, caused by any act or omission of the Contractor, of any subcontractor of the Contractor, or by their officers, agents, servants, employees, or anyone else under the Contractor's direction and control, and arising out of, occurring in connection with, resulting from, or caused by the performance or failure of performance of any work or services called for by the Contract or from conditions created by the performance or non-performance of said work or services, but not including the sole negligence of any party herein indemnified.

F. Builders' Risk "All-Risk" Insurance: In addition to such Fire and Extended Insurance coverage which the Contractor or his subcontractors elect to carry for their own protection, the Contractor, before commencement of the work, shall effect and maintain for the life of his Contract Builders' Risk "All Risk" completed Value Insurance coverage upon the full insurable value of all portions of the project which is the subject of this Contract and subject to a loss for which Builders' Risk "All-Risk" Insurance coverage gives protection, and shall include completed work and work in progress. This coverage shall be with an insurance company or companies acceptable to the Owner.

Such insurance shall include as Additional Named Insured: The Owner; the Engineer, its architects and engineers; and any of their officers, agents,

and employees; and any other persons with an insurable interest designated by the Owner as an Additional Named Insured.

Duplicate originals of the policy of insurance required herein shall be furnished to the Engineer as provided under "Evidence of Insurance Coverage" hereinafter.

G. Evidence of Liability & Builders' Risk Insurance Coverage: Before commencement of any work, the Contractor shall submit written evidence that he and all his subcontractors have obtained the minimum insurance required by the Contract Documents. Such written evidence shall be in the form of a Certificate of Insurance executed by the Contractor's insurance carrier showing such policies in force for the specified period or by furnishing a copy of the actual policy or policies. Each policy or certificate will bear an endorsement or statement waiving right of cancellation or reduction in coverage without ten (10) days notice in writing to be delivered by registered mail to the Owner.

The Contractor shall furnish duplicate originals of Builders' Risk "All-Risk" Completed Value Insurance coverage to the Engineer, one copy of which shall be for the Owner and one copy for the Engineer.

- SP-6. WATER FOR CONSTRUCTION. The Owner will furnish a fire hydrant meter for construction water on this project. The Contractor will be responsible for paying an \$800 meter deposit before the meter will be set. In addition, the Contractor will be responsible for hiring a licensed plumber to install the backflow prevention device on the fire hydrant meter. The Contractor shall provide for all labor and equipment necessary. Such water shall be taken from the system at times, locations, and under conditions approved by the Engineer. Contractor shall notify Owner at least one week in advance of when construction water will be needed.
- SP-7. ELECTRICITY. The Contractor shall make his own arrangement for electricity.
- SP-8. EXPLOSIVES. The use of explosives will not be permitted.
- SP-9. SANITARY REQUIREMENTS. The operations of the Contractor shall be in full conformance with all of the rules and regulations of boards and bodies having jurisdiction with respect to sanitation. The Contractor shall supply safe and sufficient drinking water to all of his employees, shall obey and enforce all sanitary regulations and orders, and shall take precaution against the spread of infectious diseases. Acceptable, portable, chemical-type toilets shall be provided and maintained by the Contractor.

- SP-10. DISPOSAL OF SURPLUS MATERIALS. All surplus materials not included or incorporated in the project shall be removed from the site to the satisfaction of the Engineer.
- SP-11. SIGNS, BARRICADES, AND LIGHTING. The Contractor shall provide and erect construction signing, barricades and lighting to protect the public in connection with the work, all in accordance with the latest published provisions of the Texas Manual of Uniform Traffic Control Devices and as approved by the Engineer. The construction drawings indicate only the general signing required and do not detail the requirements for protection in connection with trenching and other construction operations.
- Existing street signs, traffic signs and all other signs within the project area shall be protected, maintained and replaced if damaged or stolen; all by the Contractor as approved by the Engineer.
- SP-12. MATERIALS AND WORKMANSHIP. All materials incorporated into this project shall be new and of first quality except as specifically provided for in the technical specifications. The workmanship shall be of the highest level as approved by the Engineer.
- SP-13. EXISTING FACILITIES. Whether shown on the plans or not, the Contractor shall be completely responsible for the protection or replacement of all facilities within the project area and in connection with the work.
- SP-14. GUARANTEE. As a part of this project, the Contractor shall guarantee all materials and workmanship and shall repair or remove and replace any defective condition as determined by the Engineer. Such guarantee shall be effective for a period of one year from the date of written acceptance by the Owner or date of final payment whichever is first. The maintenance bond shall be in full effect throughout the warranty period.
- SP-15. STATE SALES TAX. The Contractor's attention is directed to paragraph No. 3 of Ruling No. 9 by obtaining the necessary permit or permits from the State Comptroller allowing the purchase of materials for incorporation in this project without having to pay the Limited Sales, Excise and Use Tax at the time of purchase. Such bidders must submit segregated prices for the total cost of materials and total cost of services, and the successful bidder must require his sub-contractors to obtain such permits and to sign written sub-contracts in which the prices are segregated for the total cost of materials and the total cost of services. Total materials cost should not include materials which are used or consumed in performing the work, but do not become a part of the completed installation.

After the bid opening and prior to execution of contract, the low bidder will be required to provide a separation of materials costs and labor costs for the

amounts of the base bid and any alternatives. The following form shall be used to provide this information. This form shall be submitted in six(6) copies with the executed contract and such statement will become a part of the contract:

STATEMENT OF MATERIALS AND SERVICES

City of Longview

Project Name: _____

Total Materials Cost: \$ _____

Total Service Cost: \$ _____

TOTAL CONTRACT PRICE: \$ _____

Note: The total materials cost plus the total services cost must equal the amount shown of the total contract price.

SP-16. CLEANUP. The entire project site shall be left in as good or better condition as the condition at the time construction is started, all as approved by the Engineer. All cleanup shall be completed within the time specified for the project construction and liquidated damages will be applied to cleanup time in the event such is performed after the contract time has expired.

SP-17. CERTIFICATE OF INCORPORATION. In the event the contractor is a corporation, the contractor shall furnish a certificate issued by the Secretary of the State of Texas dated not more than thirty days prior to commencement of construction evidencing that the contractor is a corporation duly incorporated under the laws of the State of Texas and currently in good standing, or in the case of a corporation not incorporated under the laws of the State of Texas, the certificate shall evidence that such corporation currently holds a permit to do business in the State of Texas and it is in good standing. Such corporate contractor shall at all times pay all franchise taxes and other taxes and assessments levied against it by the State of Texas and at all times maintain its corporate status and good standing according to the laws of the State of Texas.

SP-18. ALTERNATE MATERIALS AND METHODS. Consistent with the intent and character of this project, the Contractor may request from the Engineer the substitution of materials or methods of construction which he believes will give equal results. The request shall be in writing and shall contain detailed information. The Engineer will consider such requests and shall give his answer in writing. The Engineer's judgement will be final and no reason for denial will be required except as may be offered by the Engineer. The Engineer may require additional information on which to make a judgement; in which case it shall be the entire responsibility of the Contractor to provide such information.

SP-19. EXPECTED EARNINGS SCHEDULE. At the pre-construction conference for this project, the successful bidder shall submit to the City Engineer an "Expected Earnings Schedule". This table or chart shall show the amount of payment the contractor expects to receive from the City on this project each month until the project is completed. The table can be handwritten or typed. Though the contractor shall make his best effort in estimating these payments accurately, the schedule shall be used for estimating purposes only and shall not bind the City nor the Contractor to the listed payments. Payments, as usual, will be made upon actual work performed less the appropriate retainage.

SP-20. PERFORMANCE, PAYMENT, AND MAINTENANCE BONDS. Surplus lines carriers under Article 1.14-2 of the Insurance Code are not eligible to act as sureties on performance, payment, and maintenance bonds.

SP-21. RETAINAGE. Retainage is that part of the contract payment withheld by the City to secure performance of the contract.

Retainage shall be withheld at the following rates:

A. For any contract where the total contract price estimate at the time of execution of the contract is less than \$400,000 retainage shall be 10%.

B. For any contract where the total contract price estimate at the time of execution of the contract is greater than or equal to \$400,000 retainage shall be 5%.

SP-22. MATERIAL ON HAND. Unless otherwise specified in a writing signed by the Owner prior to the bid opening for this project, the Owner will pay the Contractor for materials on hand for this project, subject to the provisions of this Contract. Such payment will be made only for materials stored on-site in a manner acceptable to the Owner. At a minimum, materials must be stored in a manner that prevents damage, theft, and vandalism. Additionally, payment will be made only for materials for which the Contractor has supplied invoices to the Engineer that substantiate the amount paid for said materials.

SP-23. INSPECTION. Contractor will be allowed to work prior to 8:00 a.m. and after 4:30 p.m. on weekdays, and may also elect to work on Saturdays. The City will provide an inspector at these times as necessary. The Contractor, however, will be required to reimburse the City of Longview for the actual hours worked by the inspector outside of the regular 8:00 a.m. to 4:30 p.m. Monday through Friday hours. Such reimbursement will be made at a rate of \$25 per hour.

SP-24 AS-BUILT DRAWINGS. The Contractor will provide the City, prior to final payment, one set of construction drawings red-lined to show any changes in actual construction.

- SP-25 FIREARMS PROHIBITED. Contractor agrees that Contractor, Contractor's officers, employees, agents, and representatives, shall not carry any firearms, including without limitation concealed handguns, while in the performance of this Contract and on City premises (including City rights-of-way, utility easements, or drainage easements) or when meeting with City officers or employees regarding this Contract. Contractor agrees that failure by Contractor to comply with this requirement shall constitute a substantial breach of this Contract, entitling City to all remedies under the law or this Contract for such breach, including without limitation the City's right to terminate this Contract for substantial nonperformance.
- SP-26 PREVAILING WAGE RATES. Contractor agrees to abide by the requirements of Texas Government Code Chapter 2258, entitled "Prevailing Wage Rates," as applicable. Contractor understands that a contractor or subcontractor subject to the requirements of that Chapter must pay the prevailing wage rates as set forth in this Contract. Any contractor or subcontractor who violates this requirement may be subject to penalties as provided in Chapter 2258, including but not limited to a penalty of \$60 for each worker employed for each calendar day or part of the day that the work is paid less than the wage rates stipulated in this Contract."
- SP-27 ALLOWANCE FOR MISCELLANEOUS EXTRA WORK: A discretionary allowance has been established in the Bid Proposal for extra work for which a method of payment, such as individual bid items, has not been established. This allowance is not intended to be used to procure payment for items specifically named as subsidiary to other bid items within the contract documents such as the subsurface conditions described in the General Provisions or Special Conditions.

Prior to initiating any item of extra work under the allowance bid item the Owner, Engineer, and Contractor shall agree as to the scope of extra work to be performed and the amount of payment to be made for the particular item of extra work under consideration. Expenditure of the allowance funds is at the sole discretion of the Owner. The allowance may be used in full or in part, as the Owner deems necessary. If no extra work is identified, and approved by the Owner, the allowance funds will not be expended.

TECHNICAL SPECIFICATIONS

SECTION 1.0 – Gravity Thickener Drive.....1 thru 11

SECTION 2.0 – Grout1 thru 8

Location Map Exhibit A-1

Site Plan..... Exhibit A-2

Photos Exhibit B-1

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

PART 1 GENERAL

1.01 SCOPE

A. Description of Work

1. Equipment supplier shall furnish one (1) drive mechanism for an existing gravity thickener mechanism.
2. This specification covers the general requirements for the design and fabrication of one (1) drive mechanism for a gravity thickener application.

B. Work and Components Included (But Not Limited To):

1. The equipment manufacturer shall furnish the items listed below:
 - a. Drive mechanism complete with torque overload protection including micro-switch torque overload devices and shear pin
 - b. All associated hardware and anchor bolts
2. Equipment specified herein shall be the end product of one manufacturer in order to achieve standardization for operation, maintenance, spare parts and manufacturer's service.

C. Work Not Included

1. The following items are specified under other sections of these specifications:
 - a. Sitework - Section _____
 - b. Concrete and Grout - Section 2.0
 - c. Metal Fabrication - Section _____
 - d. Paint - Section _____
 - e. Electrical - Section _____

D. References

1. American Gear Manufacturers Association (AGMA):
 - a. 201.02 - Tooth Proportions for Coarse-Pitch Involute Spur Gears.
 - b. 390.03a - Handbook - Gear Classification, Materials and Measuring Methods for Bevel, Hypoid, Fine Pitch Wormgearing and Racks Only as Unassembled Gears.
 - c. 908 - Information Sheet - Geometry Factors for Determining the Pitting Resistance and Bending Strength of Spur, Helical and Herringbone Gear Teeth.
 - d. 2000 - Gear Classification and Inspection Handbook - Tolerances and Measuring Methods for Unassembled Spur and Helical Gears (Including Metric Equivalents).

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

- e. 2001 - Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth.
 - f. 2004 - Gear Materials and Heat Treatment Manual.
 - g. 6019 - Standard for Gearmotors Using Spur, Helical, Herringbone, Straight Bevel or Spiral Bevel Gears.
 - h. 6022 - Design Manual for Cylindrical Wormgearing.
 - i. 6034 - Practice for Enclosed Cylindrical Wormgear Speed Reducers and Gearmotors.
 - j. 9005 - Industrial Gear Lubrication.
2. American Institute of Steel Construction (AISC):
- a. Specification for Structural Steel Buildings - Allowable Stress Design and Plastic Design.
 - b. Code of Standard Practice for Steel Bridges and Buildings.
3. American Society of Mechanical Engineers (ASME)
- a. B29.1M - Precision Power Transmission Roller Chains, Attachments and Sprockets.
4. American Society for Testing and Materials (ASTM):
- a. A 36/A 36M - Standard Specifications for Structural Steel.
 - b. A 48 - Standard Specification for Gray Iron Castings.
 - c. A 148/A 148M - Standard Specification for Steel Castings, High Strength, for Structural Purposes.
 - d. A 276 - Standard Specification for Stainless Steel Bars and Shapes.
 - e. A 325 - Standard Specification for High-Strength Bolts for Structural Steel Joints.
 - f. A 536 - Standard Specification for Ductile Iron Castings.
5. American Welding Society (AWS):
- a. D 1.1 - Structural Welding Code for Steel.
6. American Bearing Manufacturers Association (ABMA):
- a. 9 - Load Ratings and Fatigue Life for Ball Bearings.
7. International Conference of Building Officials (ICBO):
- a. Uniform Building Code (UBC).
8. National Electrical Manufacturers Association (NEMA):

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

- a. 250 - Enclosures for Electrical Equipment (1,000 volts maximum).
9. Related Work Specified Elsewhere
 - a. The provisions of this section are a direct extension of the GENERAL MECHANICAL REQUIREMENTS, and although set forth only once within the specification, shall apply equally to this section.

1.02 QUALIFICATIONS

A. Manufacturer

1. Basis of design for the material and equipment specified is designed by Envirex® Products of Evoqua Water Technologies in Waukesha, WI.
2. Alternative manufactures shall be pre-approved by the engineer.

B. Manufacturer's Experience

1. The equipment Manufacturer shall have not less than fifteen (15) successful years of experience in the design, construction and operation of the type specified at fifteen (15) different plants.
2. The Engineer may require evidence, in the form of operating records, from these plants to substantiate any claims concerning the ability of the equipment to perform as required.

C. Service Center

1. Equipment supplier shall have a manufacturer authorized service and warranty center located within 250 miles of the WWTP. Service center must be fully experienced, reputable and qualified in the service, warranty and maintenance of the equipment to be furnished.
2. Equipment supplier shall maintain a complete stock of spare parts commonly needed for the equipment specified at a location within the State of Texas, or shall be capable of furnishing spare parts within forty-eight (48) hours of request.

D. Installation

1. Equipment shall be installed by a manufacturer authorized service provider familiar with the equipment specified herein.

E. The design and layout shown on the drawings are based on Evoqua Water Technologies – Envirex Equipment. If equipment other than Envirex is submitted to the Engineer for consideration as an alternate, it shall be the responsibility of the requesting Bidder to submit the following items for the substituting piece of equipment:

1. A revised drawing of the mechanical equipment and basin layouts. This revised drawing shall show the proposed location of the substitute unit and area required for

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

replaceable or serviceable components. This drawing shall also show clearances of adjacent equipment and service area required by that equipment.

2. Changes in architectural, structural, electrical, mechanical and plumbing requirements for the substitution shall be the responsibility of the Bidder wishing to make the substitution. This shall include the cost of redesign by affected designers. Any additional cost incurred by affected subcontractors shall be the responsibility of the Bidder and not the Owner.
 - a. A minimum of three (3) references of identical or larger installations including:
 1. Site City, State and Project Name
 2. Clarifier or thickener size, dimensions and general description
 3. Reference drawings of each installation
 4. Contact Name, phone number and email address of individual employed by the owner of the equipment

1.03 SUBMITTALS

- A. Operating instructions, manuals and shop drawings shall be submitted in accordance with GENERAL MECHANICAL REQUIREMENTS.
- B. Alternate Equipment
 1. If the Installing and/or General Contractor desires to offer equipment as an alternate to the specified equipment, he shall submit, within 14 days after the bid opening, substantial descriptive information in order that the Engineer may determine if the proposed alternate is equal to that specified.
 2. No alternate will be considered unless, in the opinion of the Engineer and Owner, it conforms to the specification in all respects except manufacturer and model and minor details. Material variances will not be allowed.
 3. Alternate equipment which is a "standard product" of the Manufacturer shall be modified, redesigned, or furnished with special features or special materials as may be necessary to conform to the requirements of this specification and contract drawings.
 - a. The Owner reserves the right to decide whether or not the proposed alternate will be acceptable.
 4. The Contract, if awarded, will be on the basis of material and equipment specified without consideration of alternate equipment. In the event an alternate is allowed, the Contract price will be adjusted accordingly by a change order.
 - a. By submitting a bid, the Contractor agrees and understands that Contract award will be made on the basis of the specified equipment.

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

- b. If an alternate is found to be not acceptable, the Contractor shall be responsible for supplying the equipment specified.
5. Descriptive information shall include the following:
- a. List of three (3) installations of equipment in successful operation of the design in all essential regards as specified.
 - b. Written certification that the proposed drive meets AGMA standards. Drive mechanism calculations prepared by a registered professional engineer and shall be submitted for approval along with published torque value of the proposed drive.
 - c. General arrangement of drive unit verifying AGMA torque, overload protection system, housing and gear materials and horsepower. Provide values used for the following AGMA design parameters per AGMA Specification 6034-B92:
 1. Pitch diameter of worm gear (in.)
 2. Effective face width of gear (in.)
 3. Lead angle of threads at mean worm diameter (deg)
 4. Normal pressure angle of worm thread (deg)
 5. Sliding velocity of worm at mean diameter (fpm)
 6. Number of teeth
 7. Service factor. Use 1.25
 - d. Provide the following AGMA design parameters per AGMA 2001-D04:
 1. Pitch diameter of pinion and spur gear (in.)
 2. Face width of narrowest of two mating gears (in.)
 3. Pitch line velocity of pinion (fpm)
 4. Allowable bending stress (S_{at}) of pinion and spur gear material (psi)
 5. Allowable contact stress (S_{ac}) of pinion and spur gear material (psi)
 6. Geometry factor (J) for bending
 7. Geometry factor (I) for pitting resistance
 8. Load distribution factors C_m and K_m
 9. Dynamic factors C_v and K_v
 10. Life factors C_l and K_l at 420,000 cycles of the main gear
 11. Number of teeth

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

12. Reliability factors, Cr and Kr equal to or greater than 1.0

1.04 GUARANTEE AND WARRANTY

- A. Seller shall furnish its standard warranty against defects in material and workmanship for all Equipment provided by Seller under this Section. The Seller shall warrant the Equipment, or any components thereof, through the earlier of:
 - 1. Twelve (12) months from substantial completion.

PART 2 DESIGN

2.01 MANUFACTURERS

- A. The OWNER and ENGINEER believe the following candidate manufacturers are capable of producing equipment and/or products that will satisfy the requirements of this section. This statement, however, shall not be construed as an endorsement of a particular manufacturer's products, nor shall it be construed that named manufacturers' standard equipment or products will comply with the requirements of this section.
 - 1. Evoqua Water Technologies, LLC - Envirex Products, of Waukesha, WI
 - 2. Engineer approved equal

2.02 EQUIPMENT

- A. General
 - 1. Furnish and deliver a drive mechanism for one (1) gravity thickener mechanism
 - 2. Provide any necessary adapter plates or components to install drive mechanism with existing equipment
 - 3. Gravity Thickener Details

Table 2: Gravity Thickener Design	
Internal Diameter, feet	50
Minimum Freeboard, feet	2

Table 3: Drive Design Criteria	
Ball Race Diameter, inches	42
Torque Requirements	

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

AGMA Rated Torque, ft-lbs.	21,900
Motor Shut-Off Torque, ft-lbs.	26,280
Momentary Peak Torque, ft-lbs.	43,800
Service Factor	1.25

B. Materials

1. Drive housing shall be cast iron
2. Hardware: Type 316 stainless steel.

C. Drive Mechanism

1. General

- a. Drive mechanism consisting of primary helical gear reduction, intermediate worm gear reduction unit and enclosed final reduction unit consisting of internal spur gear and pinion in a turntable base is to be completely assembled and finish painted in the Manufacturer's shop.
- b. All gearing shall be enclosed in gray cast iron ASTM A-48 Class 40B housings. Fabricated steel housings, exposed gearing and submerged bearings will not be acceptable.
- c. The drive shall be designed to allow removal and replacement of internal gear, balls and strip liners without raising the walkway.
- d. All components of the drive mechanism shall be designed in accordance with AGMA Standard 6034-B92 "Practice for Enclosed Cylindrical Worm Gear Speed Reducers and Gearmotors", and Standard 2001-D04 "Fundamental Rating Factors and Calculation Methods for Involute Spur and Helical Gear Teeth"; for 24-hour continuous, uniform load duty and 20-year design gear life at the specified output speed. The AGMA rated torque of the drive shall be the lowest value computed for worm gear set, spur gear and pinion for strength and durability.

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

- e. Select conservative values for bending strength and pitting resistance life factors KI and CI based on a minimum of 420,000 cycles of the main gear. The drive AGMA torque rating shall be as specified above with a minimum 1.25 service factor.
 - f. All bearings shall be designed for a minimum B-10 life of 200,000 hours.
2. Primary Reduction Unit
- a. Provide commercially available helical gear reducer or gearmotor in a cast housing.
 - b. All bearings shall be anti-friction type running in oil.
 - c. Motor shall be totally enclosed, ball bearing type, of ample power for starting and continuously operating the drive mechanism without overloading.
 - d. Motor to conform to NEMA standards and be suitable for operation on 230/460 volt, 3 phase, 60 Hertz current.
 - e. Primary reduction unit shall drive the intermediate reduction through a chain and sprocket arrangement with #80L self-lubricating chain and non-corrosive OSHA approved removable chain guard.
 - f. Provide proper chain tension by an adjustable steel base mounted on the intermediate reduction unit.
3. Intermediate Reduction Unit
- a. Provide worm gear speed reduction with grease and oil lubricated anti-friction type bearings in cast iron housing securely bolted on the machined top face of the final reduction unit. Worm and shaft shall be a two-piece assembly for ease of maintenance. Cycloidal and planetary gearing will not be acceptable.
 - b. Align and maintain accurate centers with the final reduction gearing. Swivel base mounting of the intermediate unit will not be acceptable.
 - c. Mount an electro-mechanical overload device on the thrust end of the worm shaft consisting of plate spring assembly, plunger, indicator dial two (2) micro-switches (one N.O. and one N.C.) and a terminal block, all enclosed in a weather tight, gray cast iron housing. Amperage metering devices will not be considered equal to the overload device specified.
 - d. Micro-switches shall be factory set to: (1) sound an alarm when the load on the mechanism reaches 100% of the AGMA torque; and (2) stop the motor when the load reaches 120% of the AGMA torque.
 - e. Provide a shear pin device mounted on the drive end of the worm shaft.

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

4. Final Reduction
 - a. Provide internal, full depth involute tooth design, ductile iron spur gear driven by a heat treated steel pinion from the slow speed shaft of the intermediate reduction unit. Stub tooth design will not be acceptable.
 - b. Provide bearings at top and bottom of pinion to ensure complete tooth contact between mating surfaces. Pinion and pinion shaft shall be furnished as a two-piece assembly for ease of maintenance.
 - c. Provide cast iron turntable base with annular raceway to contain balls upon which the internal gear rotates. The ball race shall ensure low unit ball load, long life and stability without the use of submerged guide shoes, bumpers or steady bearings.
 - d. Provide four (4) 3/8" thick x 3/4" wide renewable special hardened (38-42 Rockwell C) steel liner strips force fitted (pins and cap screws not permitted) into the turntable base and internal gear for balls to bear on vertically and horizontally.
 - e. Provide an internal gear of split design with precision mating surfaces for ease of removal of gear, balls and liner strips without raising bridge. Drives without this feature are not acceptable.
 - f. Internal gear, pinion and balls to run in an oil bath and be protected by a felt seal and vertical neoprene dust shield.
 - g. Provide oil filling and level pipe along with a drain plug and sight gauge.
 - h. Turntable base shall be bolted to the center column and be designed to support the bridge, internal gear and rotating mechanism.
 - i. Provide a 2" fluidizing vane as an integral part of header. Attach neoprene squeegee to fluidizing vane provided with 1" vertical adjustment.
 - j. Manufacturer to size and space header inlet orifices at regular intervals not exceeding 30".
 - k. Orifice design to be proportionate to the volume of sludge withdrawn from the entire tank floor at all flows.
 - l. Provide header flange with silicone seal for bolted connection to center manifold. Header shall be tie bar supported.
 - m. Alternate Manufacturers shall submit header verification field data in accordance with the Substitute Equipment Section of this specification.
 - n. Sludge withdrawal by means of individual riser pipes or stepped header construction will not be acceptable.

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

2.03 SURFACE PREPARATION AND FINISHING

- A. The center drive mechanism shall be shipped, assembled and finish painted with manufacturer's standard paint system.

PART 3 TESTING

3.01 CLARIFIER START-UP

- A. A start-up inspection and test shall be performed on each clarifier to verify proper installation, alignment and operation.
- B. Testing shall include the following:
 - 1. Drive
 - a. Alignment and Installation
 - 1. Check alignment of the drive and driven sprockets
 - 2. Check chain for proper tension
 - 3. Ensure proper fit of chain guard
 - 4. Measure the stop block clearance and lower drive housing
 - 5. Review and confirm the correct motor, gear reducer, and drive chain have been installed on the clarifier drive per the defined mechanism design
 - 6. Confirm installation of the proper shear pin
 - 7. Bump motor to confirm correct rotation
 - b. Lubrication
 - 1. Check the drive mechanism for the correct lubrication levels
 - 2. Service all lubrication points and grease fittings
 - 3. Check the air vents in the gear reducers
 - c. Micro-switches
 - 1. The torque protection micro-switches must be connected per the diagram on the drive drawing.
 - 2. The shut-down switch must be connected: a manual reset must be wired in the circuit when the motor shut-off switch is activated.
 - 3. Set alarm and motor shut-off torque overload gap per the drive drawing

SECTION 1.0

GRAVITY THICKENER DRIVE REPLACEMENT

2. Clarifier Mechanism
 - a. Installation
 1. Confirm proper installation of all field bolt material
 2. Check the bridge and platform for proper level installation
 3. Ensure proper spacing has been installed on the bridge expansion end to allow for sufficient room to expand and contract
 4. Run the mechanism and check the horizontal plane at four points on the wall (90 deg. apart) for tanks up to 80' in diameter, eight points (45 deg. Apart) for large tanks. Always recheck starting point.
 5. Perform alignment check of the truss arms

PART 4 EXECUTION

4.01 INSTALLATION AND FIELD SERVICE REQUIREMENTS

- A. The Contractor shall install the clarifier as shown on the drawings.
- B. Equipment shall be installed in accordance with GENERAL MECHANICAL REQUIREMENTS and in accordance with the Manufacturer's recommendations to provide a complete installation.
- C. The Contractor shall complete the following:
 1. Add grout between the center pier and drive unit
- D. Operating Instructions and/or Operator Training
 1. Manufacturer to provide two (2) trips and two (2) days of field service. One day shall be dedicated to a pre-grout inspection. After installation, a post-grout inspection shall be conducted followed by a general training seminar.

4.02 ELECTRICAL CONNECTIONS AND WIRING

- A. Wiring and conduits for electrical power, control and instrumentation will be provided by the Electrical Contractor.

SECTION 2.0

GROUT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes epoxy, non-metallic, non-shrink, and ordinary Portland cement grouts for:
 - 1. Equipment bases.
 - 2. Handrails and railings.
 - 3. Construction joints.
 - 4. Intrusion grouting.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM C144, Standard Specification for Aggregate for Masonry Mortar.
 - 2. ASTM C150, Standard Specification for Portland Cement.
 - 3. ASTM C109, Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (using 2-in. or 50 mm. Cube Specimens).
 - 4. ASTM C191, Time of Setting of Hydraulic Cement by Vicat Needle.
- B. United States Army Corps of Engineers
 - 1. CRD-C-619, Specification for Grout Fluidifier.
 - 2. CRD-C-621, Specification for Non-Shrink Grout. 1.3

SYSTEM DESCRIPTION

- A. Classes of Ordinary Cement Type Grout:
 - 1. Provide Class A ordinary cement type grout having a compression strength of 4,000 psi and include the following:
 - a. Foundation grout.
 - b. Construction joint grout.

1.4 SUBMITTALS

- A. Shop Drawings:
 - 1. Manufacturer's specifications and installation instructions for all proprietary materials.
 - 2. For ordinary cement grout, copies of grout design mix and laboratory strength test reports.
- B. Reports and Certificates:
 - 1. For proprietary materials, submit copies of reports on quality control tests.
 - 2. Submit certification that materials meet specification requirements for nonproprietary materials.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of Materials: Deliver grout materials from manufacturers in unopened containers and bearing intact manufacturer's labels.
- B. Storage of Materials: Store grout materials in a dry shelter and protected from moisture.

SECTION 2.0

GROUT

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Nonmetallic, 100% solids, high strength epoxy grout.
 - 1. Use prepackaged, solvent-free, moisture insensitive, high strength epoxy grout.
 - 2. Product and Manufacturer: Provide one of the following:
 - a. Euco High Strength Grout, as manufactured by The Euclid Chemical Company.
 - b. Sikadur 42 Grout Pak, as manufactured by Sika Corporation.
 - c. Five Star Epoxy Grout by Five Star Products, Incorporated.
 - d. Or approved equal.

- B. Nonshrink, Nonmetallic Grout:
 - 1. Prepackaged non-staining cementitious grout which shall meet the minimum requirements of CRD C-621 and requiring only the addition of water at the jobsite.
 - 2. Product and Manufacturer: Provide one of the following:
 - a. Euco N-S, as manufactured by The Euclid Chemical Company.
 - b. Masterflow 928, as manufactured by Master Builders, Incorporated.
 - c. Sika Grout 212, as manufactured by Sika Corporation.
 - d. Or approved equal.

- C. Ordinary Cement-Sand Grout: Prepare design mixes of ordinary cement grout.
 - 1. Cement: Portland cement, ASTM C150, Type II; or blended hydraulic cement, ASTM C595, Type 1P.
 - 2. Aggregates: ASTM C33 and as herein specified.
 - a. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite, ochre, or other materials that can cause stains on exposed concrete surfaces.
 - b. Fine Aggregate: Clean, sharp, natural sand, free from loam, clay, lumps or other deleterious substances.
 - 1) Dune sand, bank run sand and manufactured sand are not acceptable.
 - c. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
 - 1) Crushed stone, processed from natural rock or stone.
 - 2) Washed gravel, either natural or crushed. Use of slag and pit or bank run gravel is not permitted.
 - 3) Coarse Aggregate Size: Size to be ASTM C33, No. 7 for Class B grout. Coarse aggregate not permitted in Class A grout.
 - 3. Admixtures: Provide admixtures produced by established reputable manufacturers and use in compliance with the manufacturer's printed instruction. Do not use admixtures that have not been incorporated and tested in the accepted mixes, unless otherwise authorized in writing by ENGINEER. Refer to Section 03300, Cast-In-Place Concrete, for additional admixture requirements.
 - 4. Proportioning and Design of Mixes: Prepare design mixes for each class of grout. Mixes are subject to the following limitations:
 - a. Class A Grout:
 - 1) Specified 28-day Compressive Strength: 4,000 psi.
 - 2) Minimum amount of water necessary for the mixture to flow under its own weight.
 - 3) Fine Aggregate meeting ASTM C33.

SECTION 2 GROUT

- 4) Air Content Percentage: 6%.
- 5) Minimum Cement Content in Pounds per Cubic Yard: 658.
- 6) Slump at point of placement: 5"±1".
5. Proportion mixes by either laboratory trial batch or field experience methods, using materials to be employed on the Project for grout required. Comply with ACI 211.1 and provide a complete report, from an independent testing laboratory, to ENGINEER, at least 30 days prior to start of Work. Do not begin grout production until ENGINEER has approved mixes.
6. Laboratory Trial Batches: When laboratory trial batches are used to select grout proportions, prepare test specimens and conduct strength tests as specified in ACI 301, Chapter 3 - Proportioning.
7. Field Experience Method: When field experience methods are used to select grout proportions, establish proportions as specified in ACI 301, Chapter 4.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the substrate and conditions under which grout is to be placed with installer and notify ENGINEER, in writing, of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.

3.2 INSTALLATION

- A. General:
 1. Place grout as shown and in accordance with manufacturer's instructions. If manufacturer's instructions conflict with the Specifications, do not proceed until ENGINEER provides clarification.
 2. Manufacturers of proprietary products shall make available upon 72 hours notification the services of a qualified, full time employee to aid in assuring proper use of the product under job conditions. The cost of this service, if any, shall be borne by CONTRACTOR.
 3. When placing grout conform to temperature and weather limitations in Section 03300, Cast-In-Place Concrete.
- B. Equipment Bases:
 1. After shimming equipment indicated to be epoxy grouted on the plans to proper grade, securely tighten anchor bolts. Properly form around the base plates, allowing sufficient room around the edges for placing the grout. Adequate depth between the bottom of the base plate and the top of concrete base must be provided to assure that the void is completely filled with the epoxy grout.
 2. After shimming equipment indicated to be nonshrink grouted on the plans to proper grade, securely tighten anchor bolts. Properly form around the base plates allowing sufficient room around the edges for placing the grout. Adequate depth between the bottom of the base plate and the top of concrete base must be provided to assure that the void is completely filled with the non-shrink, non-metallic grout.
- C. Handrails and Railings: After posts have been properly inserted into the holes or sleeves, fill the annular space between posts and sleeve with the non-shrink, non-metallic grout. Bevel grout at juncture with post so that moisture flows away from posts.

++ END OF SECTION ++

SECTION 2 GROUT

GROUTING PROCEDURE

The purpose of this procedure is to provide assistance for those contractors whom have not had the experience in grouting tank floors for Clarifier and Thickener units. It is in no way the only way that this task can be performed and should only be considered as one possible alternative.

1. Concrete floor preparation:

- a. It is preferred that the concrete be left in a very rough condition at the time of concrete finishing. The best surface would be one that was roughened by use of a concrete rake rather than a finished surface thus increasing surface area for grout adherence.
- b. If the concrete surface has been finished rough, power wash the concrete surface prior to grouting and clean any loose debris from the grouting surface.
- c. If the concrete surface is not rough, the surface can be roughened by use of a power/mechanical concrete bushing tool. After bushing the surface of the concrete, remove all debris and power wash.
- d. If weather conditions are above freezing, saturate the concrete surface by means of submersion, sprinklers or hand application.
- e. The surface should be free of any standing water prior to the grouting process.

2. Grout screed board setup:

- a. The only method by which the grout should be applied is by using the mechanism rake. This will create a surface that will match the contour to which the mechanism rakes have been set. **IMPORTANT NOTE:** The rake arms are only to be used as a guide to the final grout contour. The grout should not be pushed around in the tank bottom using the rake arm.
- b. **IMPORTANT NOTE:** Before attaching or adding any additional weight to the rakes, mark a spot on the concrete floor at any point below one rake. Measure the distance between the rake and the reference spot on the concrete floor. This will be your reference dimension when balancing the rakes at the end of installing the screed board.

SECTION 2 GROUT

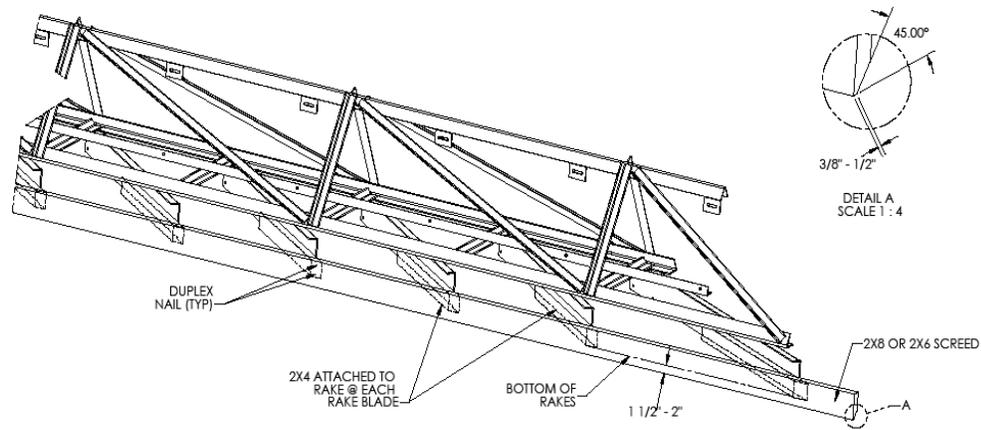


Figure 1

- c. Choose one rake to attach a screed board to. This screed board will be fixed securely to the rake and will not function as a normal screed board (see figure 1). The screed board will run parallel with the length of the rake and should extend from the inner most radius to the outer most radius or as close as practical. Note that after the screed board is attached, rotate mechanism one complete revolution to insure that there is no contact between tank wall or center cone forms with end of screed.
 - d. The screed board will be attached to a 2x4 that is attached to each rake blade (see figure 1). The screed board should be set 1 1/2" to 2" below the rake blades at each end of the screed board then attach a string line from one end to the other on the screed board and set screed board straight.
 - e. Once the screed board is attached securely and straight, use the reference dimension established in 3.b and add weight to the opposite rake until reference dimension is established.
3. Setting up the drive for grouting:
- a. The drive is to be used to rotate the mechanism during the grout application.
 - b. Even if permanent power has been run to the drive motor, it will be required to run the drive forwards and backwards during the grout application. Therefore an external drive system must be incorporated as shown in figure 2.

SECTION 2 GROUT

- c. Once the external drive system has been attached, an operator can apply a tensioning force to the belt that will turn the rakes. The grinder can be turned upside down or right side up to reverse the direction of the drive.

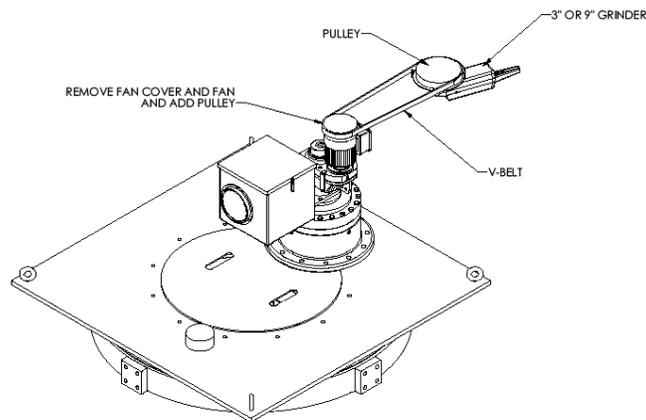


Figure 2

4. Grout Setting:

- a. It is imperative that the concrete floor be free of any dirt or debris.
- b. Some type of a bonding agent should be used to help the grout bond to the concrete floor. If a premixed bonding agent is preferred, consult your local concrete specialty company. A simple and very effective bonding agent is a slurry mixture of water and Portland cement. This can be mixed in a five gallon bucket and broom applied to the floor just in front of the grout pour. If using the cement slurry bonding agent, make sure to apply only enough slurry that can be covered by the grout before the slurry begins to dry. If the slurry dries before the grout is placed over it, the grout will not bond to the concrete in that area.
- c. The grout mixture should be a sand and cement mixture with no aggregate. If aggregate is used for excessive thickness purposes, it should be no larger than "Pea Gravel". Any type of aggregate included in the grout mix may cause surface imperfections due to the screed dragging the aggregate as it rotates. If a vibrator can be added to the rake, such as the VIBCO's SCR-100 w/ clamp on blocks, it may help in reducing the aggregate dragging situation. It is important to note that if a vibrator is used it should have the capability of being turned on and off remotely so that the grout does not become too fluid and slump down the slope of the floor.
- d. The grout should be pumped into the tank and distributed in a radial line just in front of the screed board. Make sure that grout is only slightly higher than the bottom of

SECTION 2 GROUT

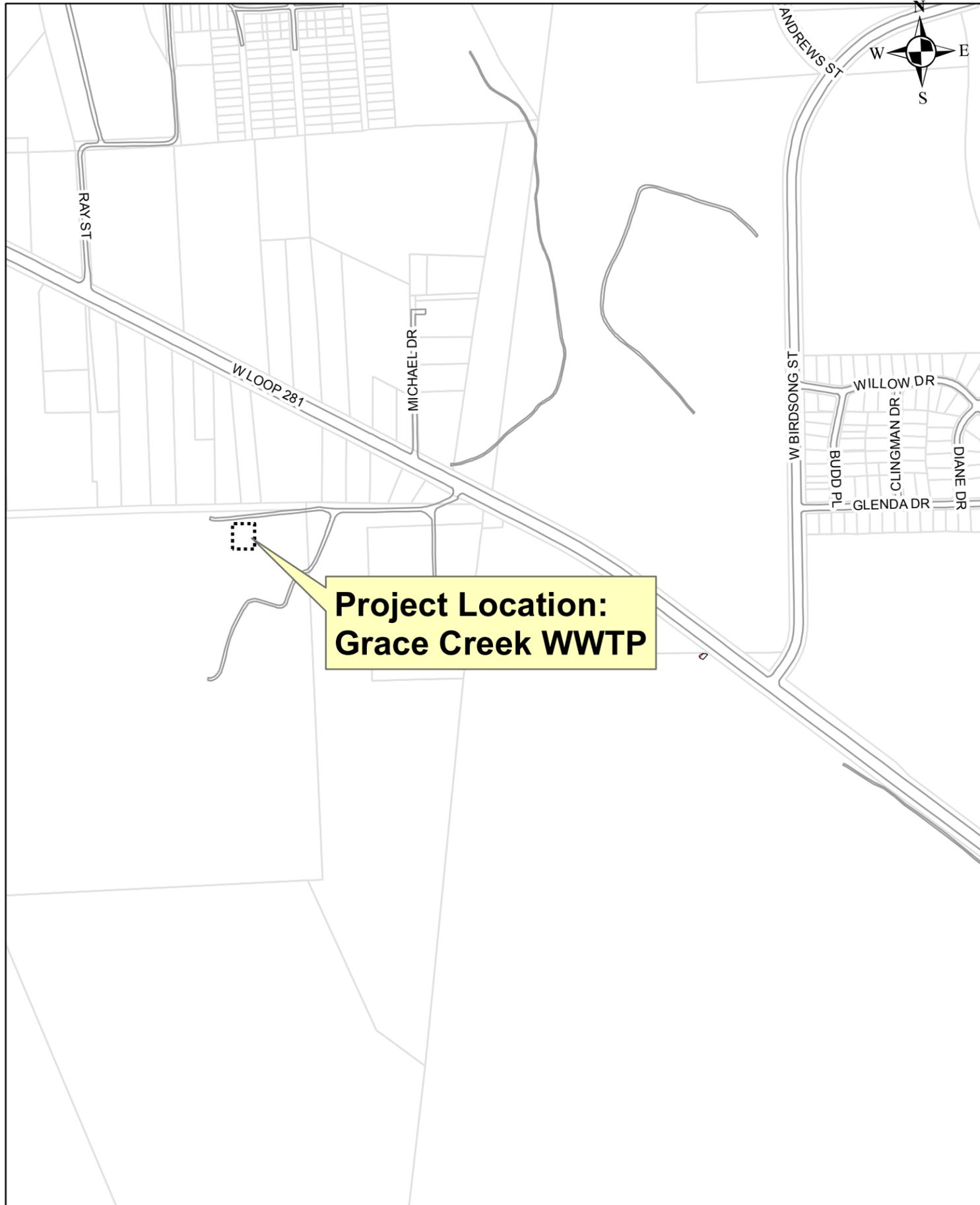
- the screed board. If too much grout is set in front of the rake, the rake will float up on top of the grout thus establishing an incorrect grout surface. There should be a number of laborers using concrete rakes to level the grout by eye. The rake can then be rotated to create the correct grout surface. Once the rake has rotated over the grouted area, possible low areas can be determined. The rake can then be rotated backwards by first having someone stand on or push the rake down on the opposite side (the rake without a screed). Turn the grinder upside down and rotate the rake backwards until it is in an area that has no low spots. The person standing on or pushing the opposite rake down should slowly step off or release pressure so not to allow the screed rake to leave an indentation in the grout surface. This process will be repeated a number of times until the grouting operation has reached the beginning point.
- e. There will be an area that the screed will not reach at the perimeter and center of the tank. In these areas a mag. float should be used to cut the excess grout from the surface and contour as needed by hand. This operation should be performed as the rake progresses. Any foot print holes caused when hand finishing these two areas can be repaired as described above.
 - f. Once the rake has nearly reached the starting point, equipment and the majority of the personnel should evacuate the tank. The beginning of the grout area may be hard enough at this point to allow personnel to use knee boards and stand so as to allow for final closure of the grout pour. If the grout is not hard enough for the use of knee boards at this point then more than enough grout must be applied in front of the rake to allow the rake to screed the final area in while the personnel leave the tank. The rake may have to run backwards and forwards a few times to finish out the level. This will cause some damage to the grout surface which will have to be repaired by hand once the grout has set up enough for use of knee boards.
 - g. Repair damaged areas as required.
5. Curing the Grout:
- a. After the grout surface has been repaired and or finished, the tank can be filled with water to complete the hydro test and aid in curing the grout. The tank can be filled by connecting to the underflow line or adding a hose at the center of the tank. If filling by hose, the hose should be run to the bottom discharge cone or sludge trough.
 - b. If flooding the tank is not an option, then the use of an absorbent cloth such as burlap can be placed over the grout and wetted for a few days to allow the grout to Hydrate at a slow rate.

SECTION 2 GROUT

6. Disclaimer:

This procedure has been produced from our experience with grouting Clarifier or Thickener floors and is **only a suggestion**. If the contractor has experience with performing this task, their experience and expertise should take precedence over the above procedure.

LOCATION MAP



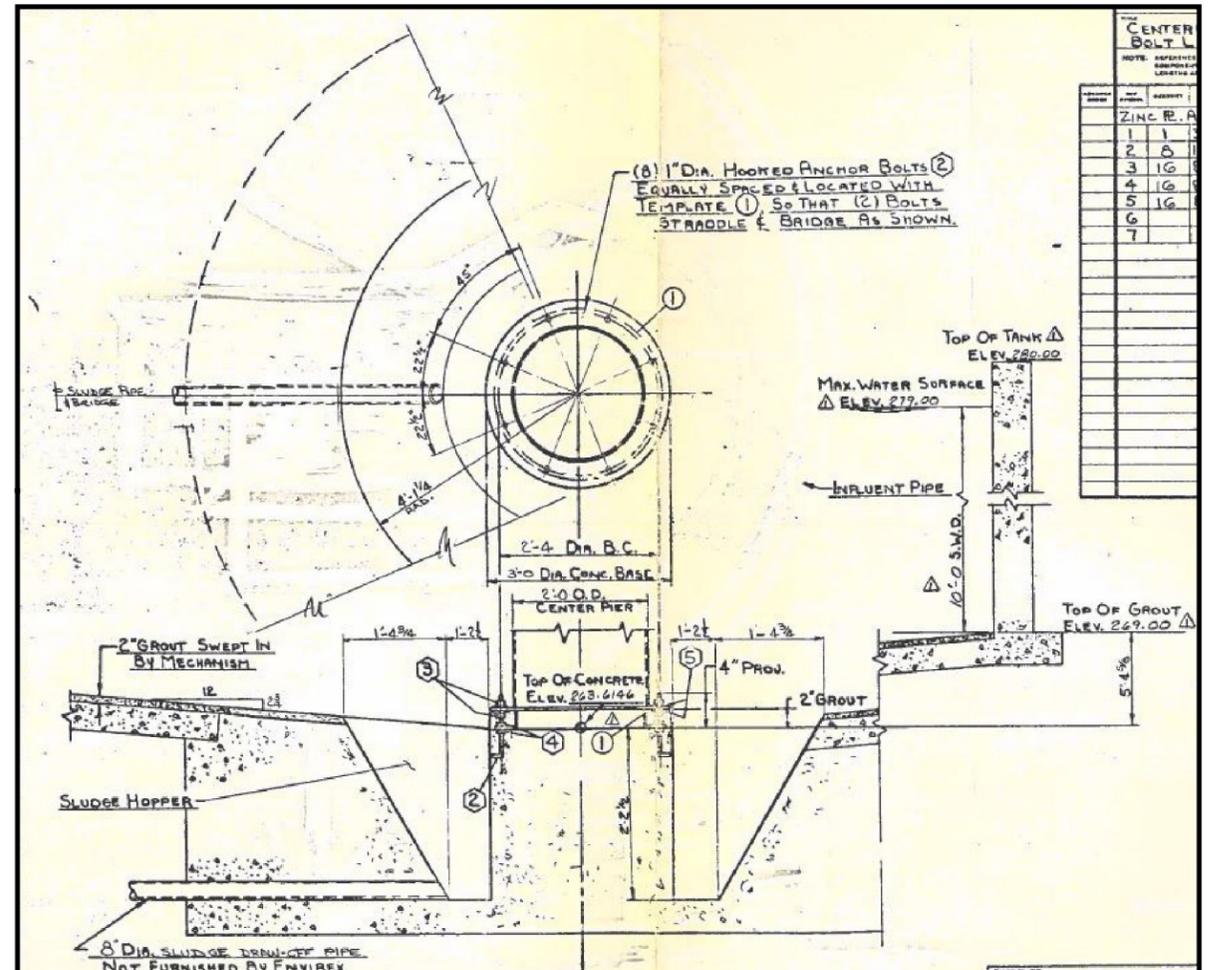
DETAIL MAP



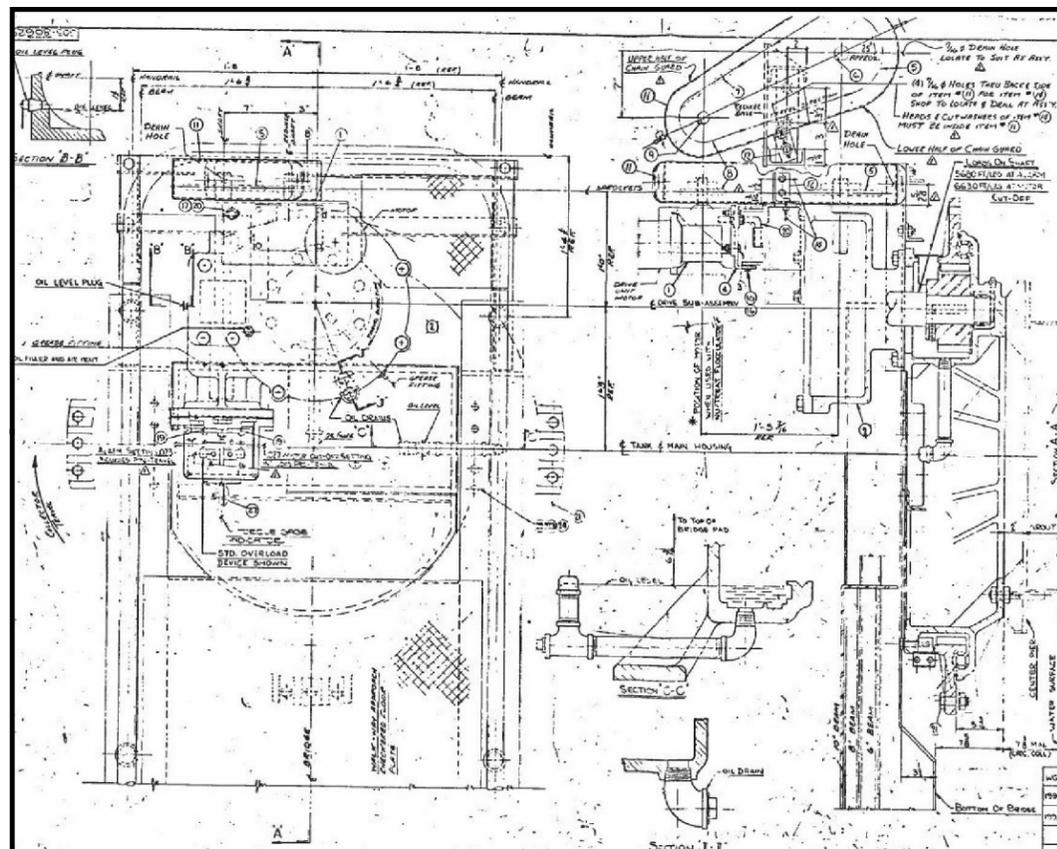
EXHIBIT A-1-LOCATION MAP

**GRACE CREEK WWTP
CLARIFIER DRIVE
REPLACEMENT
CITY OF LONGVIEW, TEXAS**

**SHEET
1 OF 2**



Existing Center Column Anchor Bolt Assembly-N.T.S



Existing Gear Drive Assembly-N.T.S

NOTES:

1. REMOVE AND REPLACE EXISTING THICKENER DRIVE ASSEMBLY. DRIVE ASSEMBLY WILL BE TYPE H-40 GEAR DRIVE BY EVOQUA OR APPROVED EQUAL.
2. REMOVAL AND REPLACEMENT OF THE DRIVE ASSEMBLY SHALL INCLUDE ALL MATERIAL AND LABOR NECESSARY TO BRACE THE EXISTING THICKENER STRUCTURAL COMPONENTS, DISCONNECT AND REWIRE ELECTRICAL POWER SUPPLY, PROVIDE ANY GROUTING WORK TO COMPLETE THE PROJECT.
3. INSTALLATION OF THE DRIVE ASSEMBLY INCLUDES ALL MATERIAL AND LABOR FOR REMOVAL AND REPLACEMENT OF THE THICKENER BRIDGE/SERVICE PLATFORM AND/OR RAKE ARM IF NECESSARY TO COMPLETE THE PROJECT.
4. CONTRACTOR SHALL PERFORM TRUE-PLANE PROCEDURE AS REQUIRED BY DRIVE MANUFACTURER.
5. CONTRACTOR SHALL SUPPLY AND FILL PRIMARY, SECONDARY AND TERTIARY REDUCER WITH THE PROPER LUBRICANT.
6. CONTRACTOR SHALL TEST RUN AND MONITOR UNIT AFTER INSTALLATION AND MAKE ANY ADJUSTMENTS AS NEEDED.
7. CONTRACTOR SHALL PROVIDE TRAINING AND OPERATION AND MAINTENANCE MANUALS UPON COMPLETION OF THE PROJECT.

EXHIBIT A-2-SITE PLAN

**GRACE CREEK WWTP
WAS THICKENER DRIVE
REPLACEMENT
CITY OF LONGVIEW, TEXAS**

**SHEET
2 OF 2**

EXHIBIT B-PHOTOS



Photo 1-Gear Drive



Photo 2-Gear Drive



Photo 3-Gear Drive



Photo 4-Gear Drive