



City of Rockwall
The New Horizon

**CITY OF ROCKWALL, TEXAS
INVITATION TO BID
FOR
LIFT STATIONS WET WELL LINING PROJECT**

BID DUE: 3:00 PM, MAY 16, 2019

OPENING: CITY HALL
COUNCIL CHAMBERS
385 S. GOLIAD, ROCKWALL, TX 75087

SUBMIT TO: LEA ANN EWING
PURCHASING AGENT
CITY OF ROCKWALL
385 S. GOLIAD, ROCKWALL, TX 75087
972.771.7700 x 6418

**City of Rockwall
Lift Stations Wet Well Lining Project
Specifications and Bid Form**

Contractors are encouraged to make site visits before submitting a bid. To schedule site visits, contact Shon Bellah, Production Tech Field Supervisor, at 972-977-5577 or sbellah@rockwall.com

The following scope of work for each lift station wet well shall include labor, equipment and material as required to clean and remove debris, remove existing coating, prepare and recoat using 125 mil Raven 405 coating at three lift station locations. This work may include contractor provided bypass pumping.

Prior to the coating process, contractor to remove existing liner, pressure wash and clean the structure. Seal any leaks that are discovered, fill bug holes, joint, honeycombs and around pipe penetrations with cementitious material. Use Raven 405 and apply a minimum of 125 MIL (1/8 inch) thickness of coating material to all exposed surfaces per the manufacturer's specifications.

Additional cleaning, preparation and repair may be required for the wet well depending on a condition assessment made by City of Rockwall personnel as work progresses. Spark testing is required for the coating. Cost for testing is subsidiary.

City personnel shall be present for the spark testing and the contractor shall provide written spark test results to the City. Also included in this bid document is a current field assessment of each wet well.

<u>Item</u>	<u>Item Description</u>	
1)	<u>FM 3097 Lift Station #1 –</u>	
	Project cost turn - key:	\$ _____
	Clean and remove debris	
	Remove existing coating	
	Prepare and recoat	
	Bypass pumping	
1a)	Any additional costs not included in the above	\$ _____
	List:	

<u>Item</u>	<u>Item Description</u>	
2)	<u>Fontana Ranch Lift Station –</u>	
	Project cost turn - key:	\$ _____
	Clean and remove debris	
	Remove existing coating	
	Prepare and recoat	
	Bypass pumping	
2a)	Any additional costs not included in the above List:	\$ _____

3)	<u>The Preserve Lift Station –</u>	
	Project cost turn - key:	\$ _____
	Clean and remove debris	
	Remove existing coating	
	Prepare and recoat	
	Bypass pumping	
3a)	Any additional costs not included in the above List:	\$ _____

Describe warranty for labor and materials for all lift station wet well project:

Attach addition documentation if necessary to fully explain warranties.

TOTAL BID COST FOR 3 LOCATIONS

\$

CITY OF ROCKWALL, TEXAS Bid Response Signature Form

“Delivery for all said equipment shall be FOB City of Rockwall, Lift Stations at FM3097 #1 (6211 FM 3097, Rockwall TX 75032), Fontana Ranch (2035 S. FM 549, Rockwall TX 75032) and The Preserve (1890 N Lakeshore Dr, Rockwall TX 75087) all in Rockwall, Texas city limits. State below the number of calendar days for project completion after vendor receives order and/order contract for construction is signed.”

FM 3097 lift station wet well	_____	calendar days ARO
Fontana Ranch lift station wet well	_____	calendar days ARO
The Preserve lift station wet well	_____	calendar days ARO

The undersigned hereby certifies that he understands all the terms, conditions, and specifications and has read them carefully and will furnish and deliver all materials and services specified within this document.

Authorized Signature _____

Printed Name and Title _____

Company Name _____

Mailing Address _____

City, State, Zip _____

Office Phone _____ Fax _____

Cell Phone _____ E-mail _____

Date _____

Note: Do not detach any forms or documents. Fill in with ink and submit this completed document with all attachments.

List 3 current references where you have performed similar work in size and scope:

Contact Name	Company	Phone	Email
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1.

2.

3.

CITY OF ROCKWALL, TEXAS
General Provisions of the Bid

1.0 Submission of Bid

- 1.1 One (1) original and (1) copy of all bid documents shall be submitted in a sealed package or container. Bid Title and Vendor's name/address and any addenda received should be marked on the outside of the package or container. Facsimile transmittals or offers communicated by telephone will not be accepted. Bids that are not submitted in a sealed package or container will not be considered.

1.2 Mail Bids to:

Purchasing Agent
City of Rockwall
385 South Goliad
Rockwall, TX 75087

1.3 Bids may also be delivered in person to:

Purchasing Agent
City of Rockwall
385 South Goliad
Rockwall, TX 75087

- 1.4 Delivery of Bids must be received in the Purchasing Agent's Office no later than the time indicated in this solicitation or subsequent addendum. The Vendor is responsible for the means of delivering the Bid documents to the location listed in 1.2 or 1.3 on time. Delays due to any instrumentality used to transmit the Bid including delay occasioned by the Vendor or the City of Rockwall internal mailing system will be the responsibility of the Vendor. The Bid must be completed and delivered in time to avoid disqualification for lateness due to difficulties in delivery. The time clock in the City's Council Chambers is the official clock for determining whether Bids are submitted timely. Late Bids will not be accepted under any circumstances.

3.0 Bid Due Date and Public Opening

- 3.1 Bids will be opened and publicly read aloud at the following location, date and time:

Location: City of Rockwall
City Hall
Council Chambers
385 South Goliad
Rockwall, TX 75087

Due Date: May 16, 2019

Time: 3:00 p.m., local time

Vendors, their representatives and interested persons may be present.

After the contract is awarded, all Bids will be open for public inspection, to the extent permitted by the law. Bids received by the Purchasing Agent after the above stated time and date shall not be considered and will be returned to the Vendor unopened.

4.0 Proprietary Information

- 4.1 If a Vendor does not desire proprietary information in the Bid to be disclosed, they are required to identify all proprietary information in the Bid. This identification will be done by individually marking each page with the words "Proprietary Information" on which such proprietary information is found. If the Vendor fails to identify proprietary information, they agree that by submission of their Bid that those sections shall be deemed non-proprietary and made available upon public request.
- 4.2 Vendors are advised that the confidentiality of the Bids will be protected by the City to the extent permitted by law. Vendors are advised to consider the implications of the Texas Open Records Act, particularly after the Bid process has ceased and the contract has been awarded. While there is provision in the Texas Open Records Act to protect proprietary information, particularly under Section 3(9) and Section 3(10) of this act where the Vendor can meet certain evidentiary standards, please be advised that a determination on whether those standards have been met will not be decided by the Purchasing Department of the City of Rockwall, but by the Office of the Attorney General of the State of Texas.

5.0 Completion of Bid

Statements made by a Vendor shall be without ambiguity, and with adequate elaboration, where necessary, for clear understanding.

6.0 Explanations

Any explanation, clarification, or interpretation desired by a Vendor regarding any part of this Request for Bids (RFB) must be requested in writing from the Purchasing Agent at least seven (7) days prior to published submission deadline, as referenced on the cover of the RFB or addenda. Interpretations, corrections or changes to the RFB made in any other manner are not binding upon the City, and Vendors shall not rely upon such interpretations, corrections or changes. Oral explanations or instructions given before the award of the Contract are not binding. Requests for explanations or clarifications may be emailed to Attn: Purchasing Agent lewing@rockwall.com and the e-mail must clearly identify the RFB by Title.

7.0 Addendum

Any interpretations, corrections or changes to the RFB will be made by addendum. Sole issuing authority of addendum shall be vested in the City of Rockwall Purchasing Agent. Addenda will be emailed to all Vendors who are known to have received a copy of this RFB.

8.0 Withdrawal of Bid

A Vendor's Bid may be withdrawn by a duly authorized representative of the Business at any time prior to the Bid submission deadline, upon presentation of accepted identification as such a representative of the Vendor.

9.0 Award of Bid

The City of Rockwall reserves the right to accept or reject any and all Bids and to re-solicit for Bids as it shall deem to be in the best interest of the City. Receipt of any Bid shall under no circumstances obligate the City to accept the lowest cost Bid. The award of this contract shall be made to the responsible Vendor whose Bid is determined to be the best evaluated offer, taking into consideration demonstrated competence and qualifications to provide the equipment solicited in the RFB. Bid may be awarded on Monday, June 3, 2019 at the regular scheduled City Council meeting.

10.0 Period of Acceptance

Vendor acknowledges that by submitting the Bid contained herein, Vendor makes an offer, which, if accepted in whole or part by the City of Rockwall, constitutes a valid and binding contract as to any and all items accepted in writing by the City of Rockwall. The period of acceptance of this Bid is 60 calendar days from the date of opening.

11.0 Tax Exemption

The City of Rockwall is exempt from Federal Excise and State Sales Tax for equipment or material incorporated into the Project; therefore, tax must not be included in this Bid for these items.

12.0 Cost Incurred in Responding

All costs directly or indirectly related to the preparation of a response to the RFB or any oral presentation required to supplement and/or clarify a Bid, which may be required by the City, shall be the sole responsibility of and shall be borne by Vendor(s).

13.0 Negotiations

Any attempt to negotiate or give information on the contents of this bid with the City or its representative prior to award shall be grounds for disqualification.

14.0 Contract Incorporation

Vendors should be aware that the contents of this successful Bid will become a part of the subsequent contractual documents. Failure of a Vendor to accept this obligation may result in the cancellation of any award. Any damages occurring to the City as a result of the Vendor's failure to contract may be recovered from the Vendor.

15.0 Non-Endorsement

If a Bid is accepted, the awardee shall not issue any news releases or other statements pertaining to the award or servicing of the agreement, which state or imply the City of Rockwall endorsement of awardee services.

CITY OF ROCKWALL, TEXAS

Standard Terms and Conditions

These standard terms and conditions and any other special terms and conditions listed in General Provisions shall become part of any contract entered into should any or all parts of the Bid are accepted by the City of Rockwall.

1.0 Error - Quantity

Bids must be submitted on units of quantity specified - extend and show total where applicable. In the event of discrepancies in extension, the unit price shall govern. The quantities shown on the bid form are estimates only and not a guarantee to purchase by the City of Rockwall.

2.0 FOB - Damage

Items shall be bid F.O.B. Delivered, City of Rockwall, Lift Station Physical Site, Rockwall, Texas 75087 and shall include all delivery and packaging costs. The City of Rockwall assumes no liability for goods delivered in damaged or unacceptable condition. The successful bidder shall handle all claims with carriers, and in case of damaged goods, shall ship replacement goods immediately upon notification by the City of damage.

3.0 Authorized Signature

Bids MUST show full firm name and address of bidder, and be manually signed. Failure to do so will disqualify bid. Person signing bid must show title or AUTHORITY TO BIND HIS FIRM IN A CONTRACT.

4.0 Withdrawal - Alteration of Bid

Bids CANNOT be altered or amended after bid closing. Alterations made before bid closing must be initialed by bidder guaranteeing authenticity. No bid may be withdrawn after bid closing without acceptable reason in writing and with the approval of the Director of Finance.

5.0 Invoices

Invoices bill to: Accounts Payable, City of Rockwall, 385 South Goliad, Rockwall, Texas 75087.

6.0 Payment Terms

Normal payment terms are Net 30 provided the goods and/or services received are in satisfactory condition. Any discounts available to the City for early payment should be noted. Discounts may be considered in determining bid award. Contractor may be allowed to make weekly draws based on work completed.

7.0 Warranty - Maintenance Agreement

Vendor shall submit with the bid response all information regarding warranties and/or maintenance agreements pertaining to said bid items. Vendor shall provide the City with a minimum 1-year warranty on labor and materials.

8.0 Delivery Promise - Penalties

Bids MUST show the number of calendar days required to place the materials in the possession of the City. DO NOT quote shipping dates. Failure to specify the delivery date will obligate bidder to complete delivery in two (2) weeks from the date the bid is awarded. Unrealistically short or undue long delivery promises may cause the bid to be disregarded. Consistent failure of a bidder to meet his delivery promises without a valid reason may cause removal from the bid list.

When delivery delay can be foreseen, the bidder shall give prior notice to the Purchasing Agent, who shall have the right to extend the delivery date if reasons for delay appear acceptable. The bidder must keep the Purchasing Agent informed at all times of the status of the order. Default in promised delivery, without acceptable reasons, or failure to meet specifications, authorizes the Purchasing Agent to purchase the goods elsewhere, and charge any increase in cost and handling to the defaulting bidder. Every effort will be made by Purchasing to locate the goods at the same or better price as that originally contracted.

9.0 Delivery Time

Deliveries will be accepted only during normal working hours, 8:00 A.M. to 5:00 P.M. CST, Monday through Friday, at the designated City facility.

10.0 Price Fixing

In submitting a bid response to this request, the bidder thereby certifies that the bidder has not participated in nor been party to any collusion, price fixing or any other agreements with any company, firm or person concerning the pricing on the enclosed bid. Consistent and continued tie bidding on any commodity could be cause for rejection of all bids by the Purchasing Agent and/or investigation by the Attorney General to determine possible Anti-Trust violations.

11.0 Bid Evaluation and Award

Vendors shall bid on all of the work to be considered. The City reserves the right to make one award and use the best value method for bid award. Vendors are to submit bids on the form provided in this bid packet. Freight / shipping costs are to be included in the Unit Price. Vendors are encouraged to submit any additional information with their bid including warranty documentation and additional warranty period cost for the equipment.

All bids are evaluated for compliance with specifications before the bid price is considered. Response to specification is primary.

12.0 Gratuities

The City may, by written notice to the successful bidder, cancel this contract without liability to successful bidder if it is determined by the City that gratuities in the form of entertainment, gifts, or otherwise, were offered or given by the successful bidder, or any agent or representative of the successful bidder, to any officer or employee of the City with a view toward securing or amending, or the making of any determinations with respect to the performing of such a contract.

13.0 Indemnity

Vendor shall defend, indemnify and hold harmless the City of Rockwall and all its officers, agents and employees from all suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons or property due to any negligent act or fault of the Vendor, or of any agency, employee, subVendor or supplier in the execution of, or performance under, any contract which may result from bid award. Vendor indemnifies and will indemnify and hold harmless the City of Rockwall from liability, claim or demand on their part, agents, servants, customers and/or employees whether such liability, claim or demand arise from event or casualty happening or within the occupied premises themselves or happening upon or in the halls, elevators, entrances, stairways or approaches of or the facilities within which the occupied premises are located. Successful Vendor shall pay any judgment which costs that may be obtained against the City of Rockwall growing out of such injury or damages.

14.0 Period of Performance

If this RFB results in a contract, it shall remain in effect until contract expires, delivery and acceptance of products and/or performance of services ordered. Further, the City of Rockwall may cancel this contract without expense to the City in the event that funds have not been appropriated for expenditures under this contract.

15.0 Right to Assurance

Whenever the City has reason to question the Vendor's intent to perform, the City may demand that the Vendor give written assurance of Vendor's intent to perform. In the event a demand is made, and no assurance is given within ten (10) calendar days, the City may treat this failure as an anticipatory repudiation of the contract.

16.0 Cancellation

The City shall have the right to cancel this contract immediately for default on all or any part of the undelivered portion of this order if Vendor breaches any of the terms hereof, including warranties of seller, or if seller files bankruptcy. Such right of cancellation is in addition to and not in lieu of any other remedies that the City may have in law or equity.

17.0 Termination

The performance of work under this contract may be terminated in whole or in part by the City, with or without cause, at any time upon the delivery to Vendor of a written "Notice of Termination" specifying the extent to which performance of work under the contract is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of rights of the City as set forth in clause 4.0, herein.

18.0 Assignment – Delegation

No right, interest or obligation of Vendor under this contract shall be assigned or delegated without the written agreement of the City. Any attempted assignment or delegation of Vendor shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.

19.0 Waiver

No claim or right arising out of a breach of this contract may be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration, is in writing, and is signed by the aggrieved party.

20.0 Modifications

This contract can be modified or rescinded only by a written agreement signed by both parties.

21.0 Interpretation and Parole Evidence

The contract resulting from the RFB is intended by the parties as a final expression of their agreement and is intended as a complete and exclusive statement of the terms of their agreement. No course of prior dealings between the parties and no usage of trade shall be relevant to supplement or explain any term used in this agreement. Acceptance of or acquiescence in a course of performance under this agreement shall not be relevant to determine the meaning of this agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code shall control.

22.0 Applicable Law

This agreement shall be governed by the Uniform Commercial Code. Whenever the term "Uniform Commercial Code" is used, it shall be construed as meaning the Uniform Commercial Code as adopted and amended in the State of Texas. Both parties agree that venue for any litigation arising from this contract shall be in Rockwall, Rockwall County, Texas. This contract shall be governed, construed and enforced by the laws of the State of Texas.

23.0 Independent Contractor

Vendor shall operate hereunder as an independent and not as an officer, agent, servant or employee of the City. Vendor shall have exclusive control of, the exclusive right to control, the details of its operations hereunder, and all persons performing same, and shall be solely responsible for the acts and omissions for its officers, agents, employees, vendors, and subcontractors. The doctrine of respondent superior shall not apply as between the City and Vendor, its officers, agents, employees, contractors and subcontractors. Nothing herein shall be construed as creating a partnership or joint enterprise between the City and Vendor, its officers, agents, employees, contractors and subcontractors.

24.0 Force Majeure

If, by any reason of force majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this agreement, such party shall give notice and full particulars of such force majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and obligation of the party giving such notice, so far as it is affected by such force majeure, shall be suspended during the continuance of the inability then claimed, except hereinafter provided, but not for longer period, and such party shall endeavor to remove or overcome such inability with all reasonable diligence.

25.0 Conflict of Interest

No public official shall have interest in this contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code Title 5, Subtitle C., Chapter 171.

26.0 Laws, Statutes and Other Governmental Requirements

Vendor agrees that he shall be in compliance with all laws, statutes, and other governmental provisions prevailing during the term of this agreement.

27.0 Notices to Parties

Notices addressed to the City pursuant to the provisions hereof shall be conclusively determined to have been delivered at the time same is deposited in the United States mail, in a sealed envelope with sufficient postage attached, addressed to Purchasing Agent, City of Rockwall, 385 South Goliad, Rockwall, Texas 75087, and notices to Vendor shall be conclusively determined to have been delivered at the time same is deposited in the United States mail, in a sealed envelope with sufficient postage attached, addressed to the address given by Vendor in its response to this RFB.

28.0 Severability

In case any one or more of the provisions contained in this agreement shall, for any reason, be held to invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this agreement, which agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

29.0 Fiscal Funding Limitation

In the event no funds or insufficient funds are appropriated and budgeted or are otherwise unavailable by any means whatsoever in any fiscal period for payments due under this contract, then the City will immediately notify Vendor of such occurrence and this contract shall be terminated on the last day of the fiscal period for which appropriations were received without penalty or expense to the City of any kind whatsoever, except to the portions of annual payments herein agreed upon for which funds shall have been appropriated and budgeted or are otherwise available.

30.0 Rights to Bid and Contractual Material

All reports, charts, schedules, or other appended documentation to any Bid, content of basic Bid, or contracts and any responses, inquiries, correspondence,

and related material submitted by Vendor shall become property of the City of Rockwall upon receipt.

31.0 Copyrights and Rights in Data

Where activities supported by this project produce original computer programs, writings, sound recordings, pictorial reproduction, drawings, or other graphical representation and works of any similar nature (the term computer program includes executable computer programs and supporting data in any form), the City of Rockwall has the right to use, duplicate, and disclose, in whole or in part, in any manner, for any purpose whatsoever and have others do so. If the material is copyrightable, the Vendor may copyright such, and the City of Rockwall reserves a royalty-free, non-exclusive, and irrevocable license to reproduce, publish and use such materials, in whole or in part to authorize others to do so.

32.0 Disability

In accordance with the provisions of the Americans With Disabilities Act of 1990 (ADA), Vendor warrants that it and any and all of its subcontractors will not unlawfully discriminate on the basis of disability in the provision of services to general public, nor in the availability, terms and/or conditions of employment for applicants for employment with, or employees of Vendor or any of its subcontractors. Vendor warrants it will fully comply with ADA provisions and any other applicable federal, state and local laws concerning disability and will defend, indemnify and hold City harmless against any claims or allegations asserted by third parties or subcontractors against City arising out of Vendor's and/or its subcontractors alleged failure to comply with the above-referenced laws concerning disability discrimination in the performance of this agreement.

- 33.0 **DISCLOSURE OF CERTAIN RELATIONSHIPS (HB 914)**. Effective January 1, 2006, Chapter 176 of the Texas Local Government Code requires that any vendor or person considering doing business with a local government entity disclose in the Questionnaire Form CIQ, the vendor or person's affiliation or business relationship that might cause a conflict of interest with a local government entity. By law, this questionnaire must be filed with the records administrator of the City of Rockwall not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code. A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor. Forms may be obtained on the City's website at www.rockwall.com, City Departments, Finance Department, Purchasing page.

34.0 Insurance Requirements:

Liability insurance and/or workers' compensation are required by the City for said bid item(s), **proof of insurance and/or workers' compensation should be submitted with the bid proposal.** The City reserves the right to review all insurance policies pertaining to bid item(s) to guarantee that the proper coverage is obtained by the bidder. CONTRACTOR shall purchase, at his own expense, and maintain such insurance as will protect him from claims under worker's compensation laws, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of his employees, and claims insured by usual personal injury liability coverage; from claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees including claims insured by usual personal injury liability coverage; and from claims for injury to or destruction of tangible property, including loss or use resulting there from - any or all of which may arise out of or result of Contractor's operations under the Contract Documents, whether such operations be by himself or by any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. This insurance shall include the specific coverage and be written for not less than any limits of liability and maximum deductibles specified in the Supplemental Conditions or required by law, whichever is greater, shall include contractual liability insurance and **shall include the City as an additional insured.** The CONTRACTOR shall maintain such additional insurance as he may deem appropriate. With the exception of the Agreement, CONTRACTOR shall file with the City his Accord certificates of such insurance, acceptable to City; these certificates shall contain a provision that the coverage afforded under the policies will not be canceled or materially changed until at least thirty (30) days prior written notice has been given to City.

- Limits:
Such insurance as will protect the Contractor for damages because of bodily injury, sickness, disease or death of his employees apart from that imposed by Statutory Worker's Compensation laws with such insurance having a minimum limit of liability of not less than \$500,000.
- Such insurance as will protect the Contractor from claims from damages because of bodily injury, personal injury, sickness, disease or death with minimum limits of liability of not less than \$500,000 each occurrence and \$500,000 aggregate.
- Such insurance as will protect the Contractor from claims for damages for injury to or destruction of tangible property of others, including loss of use thereof. Such coverage shall include Broad Form Property Damage and removal of XCU exclusions where applicable. The minimum limits of liability shall be \$1,000,000 per occurrence and \$1,000,000 aggregate.

- Such insurance as will protect the Contractor from claims for damages arising out of the maintenance, operation, or use of any owned, non-owned or hired vehicles. Minimum limits of liability for bodily injury and property damage shall be not less than \$1,000,000 for each occurrence.
- Property insurance including materials not in place at the site to the full insurable value thereof.

All insurance coverages required are MINIMUM coverages and limit amounts, and it shall be the Contractor's responsibility to determine which limits are adequate for the scope and size of this work. These minimum limits may be basic policy limits or any combination of basic limits and umbrella limits. In any event, the Contractor is fully responsible for all losses arising out of, resulting from or connected with operations under this contract whether or not said losses are covered by insurance. The City's acceptance of Certificates of Insurance that in any respect do not comply with the Contract requirements does not release the Contractor from compliance herewith.

The City and Contractor waive all rights against each other for damages caused by fire or other perils to the extent their interests are covered by insurance under this Section, except such rights as they may have to the proceeds of such insurance when held by the City as trustee. The Contractor shall require similar waivers by Subcontractors and Sub-subcontractors.

35.0 CERTIFICATE OF INTERESTED PARTIES FORM 1295

Definition and Instructions

Section 2252.908 of the Texas Government Code states that a governmental entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties to the governmental entity or state agency at the time the business entity submits the signed contract to the governmental entity or state agency. The law applies only to a contract of a governmental entity or state agency that either (1) requires an action or vote by the governing body of the entity or agency before the contract may be signed or (2) has a value of at least \$1 million.

All vendors entering into a contract that is approved by City Council must complete a Form 1295.

A business entity must enter the required information on Form 1295 online at <https://www.ethics.state.tx.us/File/> and print a copy of the completed form, which will include a certification of filing that will contain a unique certification number. An authorized agent of the business entity must sign the printed copy of the form and have the form notarized. The completed Form 1295 with the certification of filing must be filed with City.

36.0 Piggyback Contract/Other Entity Clause:

It is the intent of this solicitation that other governmental organizations and agencies throughout the continental United States may purchase identical items at the same unit pricing and the same general terms and conditions, subject to the applicable state laws. Freight/shipping charges are included in the proposal prices for Texas cooperative members. Additional freight/shipping charges that may be required by other organizations and agencies are outside the scope of the base proposal. The City authorizes each governmental entity to make payment directly to the successful proposer. The term of this agreement is one (1) year from the date of contract execution.

**PUBLIC NOTICE
CITY OF ROCKWALL, TEXAS**

Advertisement for Bid

The City of Rockwall will receive sealed bids for Lift Station Wet Well Maintenance Project until May 16, 2019 at 3:00 PM. Bids should be delivered to the Purchasing Agent, City of Rockwall, 385 S. Goliad, Rockwall TX 75087 on or before the above due date and time. Bids will be publicly opened and read aloud in the City Council Chambers, Rockwall City Hall, 385 S. Goliad, Rockwall, TX 75087. All quantities are estimated and subject to change. General and Automobile liability and statutory Worker's Compensation insurances are required. Bid document, including plans, drawings and technical specifications, are on file at City of Rockwall Purchasing office and on line at www.rockwall.com. Attention is called to the fact that not less than the minimum salaries and wages must be paid on this project, and that the Contractor must ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, or national origin. The City of Rockwall reserves the right to reject any and all bids or to waive any informalities in the bidding.

Publish text above this line only

Publish: Herald Banner

April 26, 2019
May 3, 2019

Site 12	FM 3097 #1 Lift Station	FIELD ASSESSMENT - SITE ACCESS & SECURITY	
		Date of Site Visit: 5/3/2016 Time of Day: 9:00 AM	Conducted by: CDB

City Lift Station No.: C12
 Address: 6211 FM 3097
 Coordinates: 32°52'15.88"N
 96°26'48.07"W
 Year Installed: 2008
 Service Area (ac): 60.5

Number of Pumps: 2
 Manufacturer/Model: ABS, M4-M9 (AFP 2001)
 Pump Type: Submersible
 Expected Design Capacity: 1.87 MGD
 Force Main Diameter (in.): 16
 Force Main Length (ft): 5330



ACCESS & SECURITY

Accessibility:

Vehicular Access: YES
 Valves Accessible: YES
 Hoisting Equipment: NO

Drainage:

Approximate 100-year flood Elevation: NOT STUDIED
 Approximate Top Slab Elevation: 498'
 25-year (24-Hour) Flood Accessible: YES
 Top Slab Height above Ground (in.): 24

Security:

All Required Locks: YES
 Fencing Material: IRON
 Fence Height: 8'
 Intruder Resistant: YES

Environmental Impact:

Screening: PARTIAL Type: CEDAR
 Excessive Noise: NO
 Alarm: YES
 Residential Proximity: >500'
 Adjacent Land Use: RIGHT-OF-WAY, AGRICULTURAL

Site 12	FM 3097 #1 Lift Station	FIELD ASSESSMENT - CIVIL, ELECTRICAL & SCADA	
		Date of Site Visit: 5/3/2016 Time of Day: 9:00 AM	Conducted by: CDB

CIVIL & MECHANICAL ASSESSMENT

Ventilation:

Air Vent Diameter (in.): 8"
 Passive Wet Well Ventilation: YES
 Mechanical Ventilation: NO
 Noticeable Odor: NO
 Odor control Device: NO

Pumps:

Excessive Vibration: NO
 Alternating: YES
 Rail-type Support: YES
 Grinder Pump Required: NO

Wet Well:

Excessive Grease or Solids: NO
 Interior coating: EPOXY LINING
 Water Level Mechanism Type: FLOATS

	Pump 1	Pump 2
Make	ABS	ABS
Model	M4-M9 (AFP 2001)	M4-M9 (AFP 2001)
Type	Submersible	Submersible
Year Installed	2008	2008
HP	46.9	46.9

Discharge Piping:

Discharge Check Valves: YES
 Discharge Isolation Valves: YES
 Valve Vault: YES
 Valve Corrosion: YES
 F.M. Piping Material: PVC

Bypass:

Bypass Connection: YES
 Bypass Diameter (in.): 12
 #Bolts on bypass Cover: 12

Miscellaneous Notes:

DESIGNED FOR FUTURE FLOW, LACKS A VENT SCREEN, 4-INCHES OF STANDING WATER IN VALVE VAULT
 PLANNED SHIELD INSTALLATION

SCADA & ELECTRICAL ASSESSMENT

SCADA System:

Communications: RADIO
 Antenna: YES
 Battery Backup: GENERATOR

Control Panel:

Enclosure Condition: GOOD
 Weather Protection: PLANNED
 GFCI Receptacles: YES

Safety:

Intrinsically Safe Devices: NO
 Surge Protection: YES
 Grounding: YES
 Seals: ADEQUATE

Power Supply:

Power: 3PH/ 480 Volts
 Meter #: 2910263
 Power Monitor Unit: NO

Emergency Provisions:

Standby Generator: YES, HOLT/CAT
 Load Bank: NO
 Transfer Switch Type: AUTOMATIC
 Quick Connect Ports: NO
 Longest Electrical Outage Time: 25:53:26
 Estimated Portable Generator Transport Time: ON-SITE

Electrical Notes:

GENERATOR AUTOMATIC TRANSFER SWITCH IS NOT WORKING

Site 12	FM 3097 #1 Lift Station	PUMP DRAWDOWN & DESIGN CALCULATIONS Date of Test: 7/1/2016 Conducted by: CITY Time of Day: N/P
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LIFT STATION DESIGN PARAMETERS

Design Flow Calculations

Basin Area (acre):	60.5
Basin Population:	
Average Daily Flow (mgd):	0.056
Average Daily Flow (gpm):	39
Infiltration & Inflow (mgd):	0.024
Peak Wet Weather Flow (mgd):	0.127
Peak Wet Weather Flow (gpm):	88

Wet Well Configuration & Pump Setting Elevations

Wet Well Shape:	Rectangular	Top Slab:	498.00'
Wet Well Size:	12' L x 12' W	High-Water Alarm:	471.00'
Wet Well Depth (ft):	34	Lag Pump On:	470.00'
Surface Area (sft):	144.00	Lead Pump On:	469.00'
Operating Range (ft):	3.5	All Pumps Off:	465.50'
		Bottom Slab:	464.00'

PUMP DRAWDOWN TEST RESULTS

Pump Number	Test #	Drawdown		Inflow / Fill		Measured Discharge (gpm)	Measured Inflow (gpm)	Pumping Rate (gpm)	Average Pumping Rate (gpm)
		Time _d (seconds)	Depth _d (ft.)	Time _f (seconds)	Depth _f (ft.)				
1	1	65	1	1657	1	994.3	39.0	1033.3	1041.0
	2	64	1	1657	1	1009.8	39.0	1048.8	
2	1	46	1	1657	1	1404.9	39.0	1443.9	1362.9
	2	52	1	1657	1	1242.8	39.0	1281.8	
1 & 2	1	34	1	1657	1	1900.8	39.0	1939.8	1839.8
	2	38	1	1657	1	1700.7	39.0	1739.7	

COMPLIANCE WITH TCEQ REQUIREMENTS

I. DETENTION TIME

Required Detention Time ¹	min	20
Two-Hour Peak Flow	mgd	0.127
Required Retention Volume	gal.	1,768
Required Retention Volume	CF	236
Wet Well Retention Volume	CF	2,773
Volume In Upstream Lines	CF	1,262
Retention Volume Provided	CF	4,036
Additional Volume Needed	CF	Adequate
Calculated Detention time:	min	341.5

Adequate

II. CYCLE TIME & MINIMUM VOLUME

		Pump-1	Pump-2	
Minimum Cycle Time ¹	min	6	6	For 46.9 HP Pump
Measured Pump Rate	gpm	1041.0	1362.9	
Cycle Time (Average Flow)	min	100.4	99.5	TCEQ (Max. 10/hr.)
Cycle Time (Peak Flow)	min	47	46	
Pump Starts Per Hour	#	0.6	0.6	
Minimum Volume Required	gal.	1,562	2,044	
Minimum Volume Required ²	CF	209	273	
'Active' Volume Provided ³	CF	504	504	

Pump-1: Adequate

Pump-2: Adequate

		Pump-1	Pump-2
Time to Fill (Average Flow)	min	96.7	96.7
Time to Pump (Average Flow)	min	3.8	2.8
Time to Fill (Peak Flow)	min	42.6	42.6
Time to Pump (Peak Flow)	min	4.0	3.0

¹ Requirement of 30 TAC Chapter 217 - Minimum Cycle time is greater for pumps with higher horsepower

² Calculated with 30 TAC Chapter 217.60(b)(8) Equation C.4.

³ Active volume is defined by normal operation settings range 'Pumps Off' to 'Lead Pump On'

Site
12

FM 3097 #1 Lift Station

PUMP & SYSTEM CURVES

Date of Test: 7/1/2016
Time of Day: N/P

Conducted by: CITY

DESIGN & PUMPING ASSESSMENT

System Curve Calculations

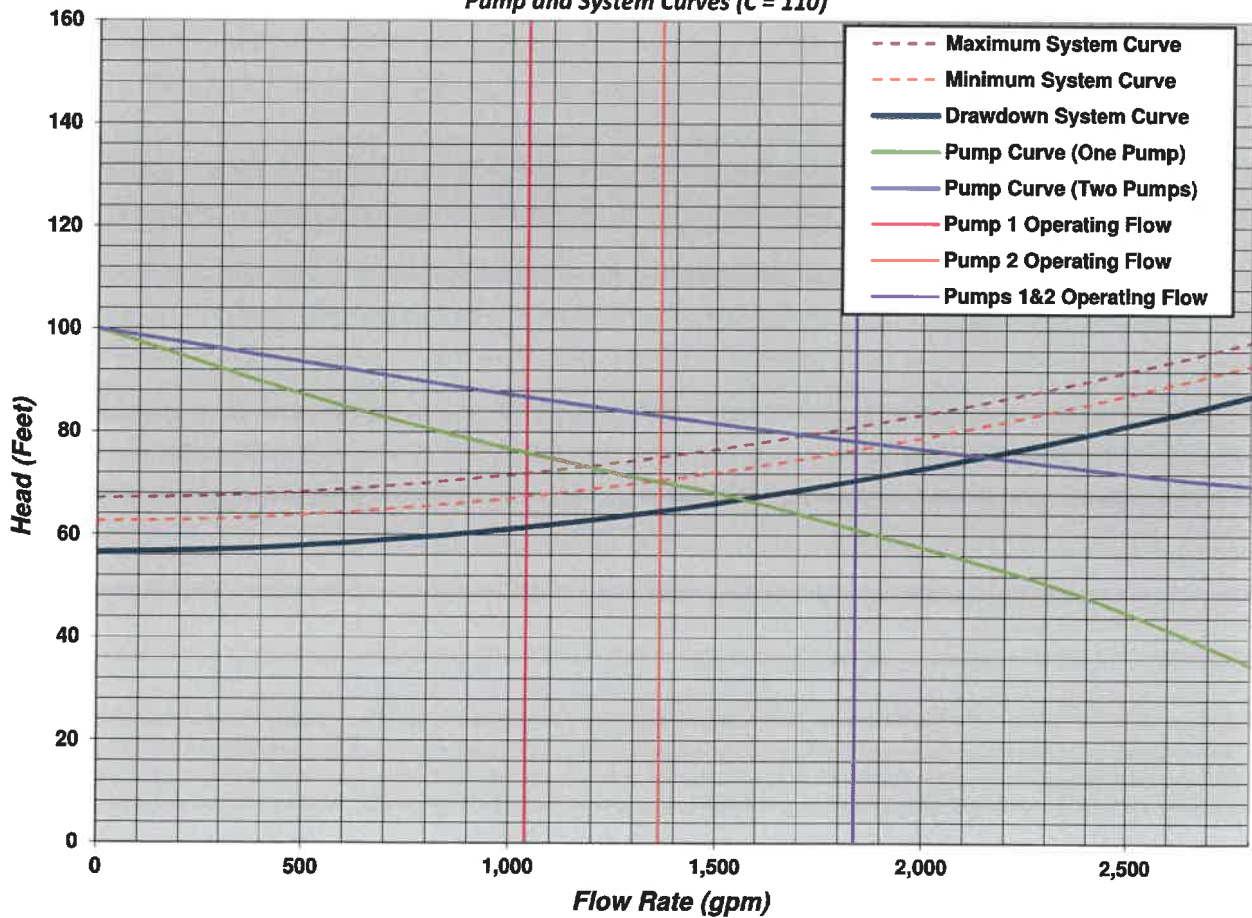
Force Main Diameter:	16"
Force Main Length:	5330'
End of Force Main Elevation:	532.57'
Force Main High Point Elevation:	532.57'
Water Elevation At Drawdown:	476'
Static Head Range:	62.6 to 67.1
Static Head Tested:	56.6'
Hazen Williams Coefficient:	110
Min. Velocity in Force Main (fps):	1.66
Travel Time in Force Main:	53.4 minutes

Drawdown Results and Comparison

Pumping Sequence	Drawdown		Design		
	Measured Pumping Rates (gpm)	Velocity	Pump Rates (gpm)	Total Dynamic Head (ft.)	Difference (gpm)
Pump 1	1041.0	1.7	1302	72.3	-261
Pump 2	1362.9	2.2	1302	72.3	61
Pumps 1&2	1839.8	2.9	1906	79.9	-66

FM 3097 #1 Lift Station

Pump and System Curves (C = 110)



Observations:

Site**14****Fontana Ranch Lift Station****FIELD ASSESSMENT - SITE ACCESS & SECURITY**

Date of Site Visit: 3/18/2016

Conducted by: DBC&KA

Time of Day: 1:00 PM

City Lift Station No.: C14
Address: 2035 S. FM 549
Coordinates: 32°53'37.48"N
96°25'04.16"W
Year Installed: 2007
Service Area (ac): 95.2

Number of Pumps: 2
Manufacturer/Model: ABS, M1-ME3 (AFP 1049)
Pump Type: Submersible
Expected Design Capacity: 0.58 MGD
Force Main Diameter (in.): 8
Force Main Length (ft): 5966.6

**ACCESS & SECURITY****Accessibility:**

Vehicular Access: YES
Valves Accessible: YES
Hoisting Equipment: NO

Drainage:

Approximate 100-year flood Elevation: N/A
Approximate Top Slab Elevation: 568'
25-year (24-Hour) Flood Accessible: YES
Top Slab Height above Ground (in.): 1

Security:

All Required Locks: YES
Fencing Material: IRON
Fence Height: 8'
Intruder Resistant: YES

Environmental Impact:

Screening: NO
Excessive Noise: NO
Alarm: YES
Residential Proximity: <500'
Adjacent Land Use: RESIDENTIAL

Site 14	Fontana Ranch Lift Station	FIELD ASSESSMENT - CIVIL, ELECTRICAL & SCADA	
		Date of Site Visit: 3/18/2016 Time of Day: 1:00 PM	Conducted by: DBC&KA

CIVIL & MECHANICAL ASSESSMENT

Ventilation:

Air Vent Diameter (in.): 4"
 Passive Wet Well Ventilation: YES
 Mechanical Ventilation: NO
 Noticeable Odor: YES
 Odor control Device: NO

Pumps:

Excessive Vibration: YES
 Alternating: YES
 Rail-type Support: YES
 Grinder Pump Required: NO

Wet Well:

Excessive Grease or Solids: YES
 Interior coating: EPOXY LINING
 Water Level Mechanism Type: FLOATS

	<u>Pump 1</u>	<u>Pump 2</u>
Make	ABS	ABS
Model	M1-ME3 (AFP 1049)	M1-ME3 (AFP 1049)
Type	Submersible	Submersible
Year Installed	2007	2007
HP	12.1	12.1

Discharge Piping:

Discharge Check Valves: YES
 Discharge Isolation Valves: YES
 Valve Vault: YES
 Valve Corrosion: YES
 F.M. Piping Material: PVC

Bypass:

Bypass Connection: YES
 Bypass Diameter (in.): 6
 #Bolts on bypass Cover: 8

Miscellaneous Notes:

ACTIVE INFLOW, GREASE BUILDUP, INFLUENT LINES HIGH RELATIVE TO WATER LEVEL
 FENCE IS CORRODED, VALVE VAULT IS LEAKING & SUMPS TO WET WELL (POSSIBLE SOURCE OF I&I)

SCADA & ELECTRICAL ASSESSMENT

SCADA System:

Communications: RADIO
 Antenna: YES
 Battery Backup: GENERATOR

Control Panel:

Enclosure Condition: GOOD
 Weather Protection: YES
 GFCI Receptacles: YES

Safety:

Intrinsically Safe Devices: NO
 Surge Protection: YES
 Grounding: YES
 Seals: POOR

Power Supply:

Power: 3PH/ 480 Volts
 Meter #: 46833 (FEC)
 Power Monitor Unit: NO

Emergency Provisions:

Standby Generator: YES, CUMMINS
 Load Bank: NO
 Transfer Switch Type: AUTOMATIC
 Quick Connect Ports: NO
 Longest Electrical Outage Time: 4:48:00
 Estimated Portable Generator Transport Time: ON-SITE

Electrical Notes:

Site 14	Fontana Ranch Lift Station	PUMP DRAWDOWN & DESIGN CALCULATIONS Date of Test: 3/23/2016 Conducted by: CITY Time of Day: 11:00 AM
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LIFT STATION DESIGN PARAMETERS

Design Flow Calculations

Basin Area (acre):	95.2
Basin Population:	294
Average Daily Flow (mgd):	0.041
Average Daily Flow (gpm):	29
Infiltration & Inflow (mgd):	0.038
Peak Wet Weather Flow (mgd):	0.187
Peak Wet Weather Flow (gpm):	130

Wet Well Configuration & Pump Setting Elevations

Wet Well Shape:	Circular	Top Slab:	568.00'
Wet Well Size:	6' Diameter	High-Water Alarm:	558.00'
Wet Well Depth (ft):	18	Lag Pump On:	557.00'
Surface Area (sft):	28.27	Lead Pump On:	556.00'
Operating Range (ft):	4.25	All Pumps Off:	551.75'
		Bottom Slab:	550.00'

PUMP DRAWDOWN TEST RESULTS

Pump Number	Test #	Drawdown		Inflow / Fill		Measured Discharge (gpm)	Measured Inflow (gpm)	Pumping Rate (gpm)	Average Pumping Rate (gpm)
		Time _d (seconds)	Depth _d (ft.)	Time _f (seconds)	Depth _f (ft.)				
1	1	44	1	289	0.5	288.4	22.0	310.4	308.5
	2	43	1	547	0.5	295.1	11.6	306.7	
2	1	44	1	372	0.5	288.4	17.1	305.5	310.6
	2	44	1	232	0.5	288.4	27.3	315.7	
1 & 2	1	38	1	320	0.5	333.9	19.8	353.8	360.5
	2	36	1	430	0.5	352.5	14.8	367.2	

COMPLIANCE WITH TCEQ REQUIREMENTS

I. DETENTION TIME

Required Detention Time ¹	min	20
Two-Hour Peak Flow	mgd	0.187
Required Retention Volume	gal.	2,595
Required Retention Volume	CF	347
Wet Well Retention Volume	CF	339
Volume In Upstream Lines	CF	1,033
Retention Volume Provided	CF	1,373
Additional Volume Needed	CF	Adequate
Calculated Detention time:	min	79.1

Adequate

II. CYCLE TIME & MINIMUM VOLUME

		Pump-1	Pump-2	
Minimum Cycle Time ¹	min	6	6	For 12.1 HP Pump
Measured Pump Rate	gpm	308.5	310.6	
Cycle Time (Average Flow)	min	34.6	34.6	
Cycle Time (Peak Flow)	min	12	12	TCEQ (Max. 10/hr.)
Pump Starts Per Hour	#	1.7	1.7	
Minimum Volume Required	gal.	463	466	
Minimum Volume Required ²	CF	62	62	
'Active' Volume Provided ³	CF	120	120	

Pump-1: Adequate

Pump-2: Adequate

		Pump-1	Pump-2
Time to Fill (Average Flow)	min	31.4	31.4
Time to Pump (Average Flow)	min	3.2	3.2
Time to Fill (Peak Flow)	min	6.9	6.9
Time to Pump (Peak Flow)	min	5.0	5.0

¹ Requirement of 30 TAC Chapter 217 - Minimum Cycle time is greater for pumps with higher horsepower

² Calculated with 30 TAC Chapter 217.60(b)(8) Equation C.4.

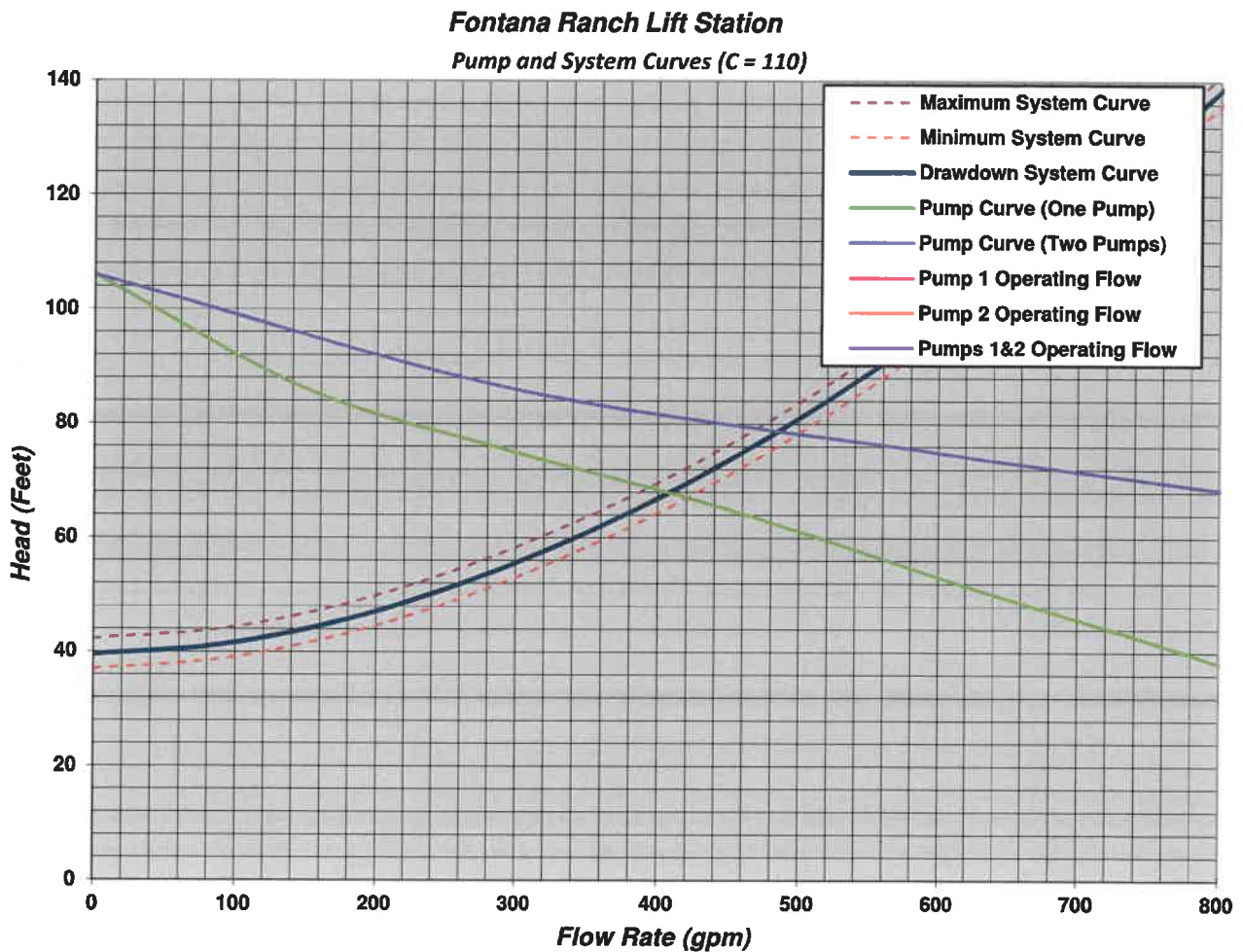
³ Active volume is defined by normal operation settings range 'Pumps Off' to 'Lead Pump On'

Site 14	Fontana Ranch Lift Station	PUMP & SYSTEM CURVES Date of Test: 3/23/2016 Conducted by: CITY Time of Day: 11:00 AM
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DESIGN & PUMPING ASSESSMENT

System Curve Calculations	
Force Main Diameter:	8"
Force Main Length:	5966.6'
End of Force Main Elevation:	594'
Force Main High Point Elevation:	594'
Water Elevation At Drawdown:	554.5'
Static Head Range:	37.0 to 42.3
Static Head Tested:	39.5'
Hazen Williams Coefficient:	110
Min. Velocity in Force Main (fps):	1.97
Travel Time in Force Main:	50.4 minutes

Pumping Sequence	Drawdown		Design		Difference (gpm)
	Measured Pumping Rates (gpm)	Velocity	Pump Rates (gpm)	Total Dynamic Head (ft.)	
Pump 1	308.5	2.0	402	67.5	-93
Pump 2	310.6	2.0	402	67.5	-91
Pumps 1&2	360.5	2.3	496	80.6	-135



Observations:

Site 28	The Preserve Lift Station	FIELD ASSESSMENT - SITE ACCESS & SECURITY	
		Date of Site Visit: 5/10/2016 Time of Day: 1:15 PM	Conducted by: DBC&CDB

City Lift Station No.: C28
 Address: 1890 N Lakeshore
 Coordinates: 32°56'27.86"N
 96°28'29.09"W
 Year Installed: 2008
 Service Area (ac): 136.0

Number of Pumps: 2
 Manufacturer/Model: ABS, M1-ME3 (AFP 1034)
 Pump Type: Submersible
 Expected Design Capacity: 0.33 MGD
 Force Main Diameter (in.): 6
 Force Main Length (ft): 2726.04



ACCESS & SECURITY

Accessibility:

Vehicular Access: YES
 Valves Accessible: YES
 Hoisting Equipment: NO

Drainage:

Approximate 100-year flood Elevation: NOT STUDIED
 Approximate Top Slab Elevation: 486'
 25-year (24-Hour) Flood Accessible: UNKNOWN
 Top Slab Height above Ground (in.): 20

Security:

All Required Locks: YES
 Fencing Material: IRON
 Fence Height: 8'
 Intruder Resistant: YES

Environmental Impact:

Screening: PARTIAL Type: TREES
 Excessive Noise: YES, FAN
 Alarm: YES
 Residential Proximity: <50'
 Adjacent Land Use: RESIDENTIAL

Site 28	The Preserve Lift Station	FIELD ASSESSMENT - CIVIL, ELECTRICAL & SCADA Date of Site Visit: 5/10/2016 Conducted by: DBC&CDB Time of Day: 1:15 PM
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CIVIL & MECHANICAL ASSESSMENT

Ventilation:

Air Vent Diameter (in.): NONE
 Passive Wet Well Ventilation: NO
 Mechanical Ventilation: NO
 Noticeable Odor: YES
 Odor control Device: NO

Pumps:

Excessive Vibration: NO
 Alternating: YES
 Rail-type Support: YES
 Grinder Pump Required: NO

Wet Well:

Excessive Grease or Solids: YES
 Interior coating: EPOXY LINING
 Water Level Mechanism Type: FLOATS

	<u>Pump 1</u>	<u>Pump 2</u>
Make	ABS	ABS
Model	M1-ME3 (AFP 1034)	M1-ME3 (AFP 1034)
Type	Submersible	Submersible
Year Installed	2008	2008
HP	30.8	30.8

Discharge Piping:

Discharge Check Valves: YES
 Discharge Isolation Valves: YES
 Valve Vault: YES
 Valve Corrosion: NO
 F.M. Piping Material: PVC

Bypass:

Bypass Connection: YES
 Bypass Diameter (in.): 4
 #Bolts on bypass Cover: 8

Miscellaneous Notes:

LACKS PASSIVE VENTILATION, WET WELL COATING FAILURE
LARGE EASEMENT AREA, NEEDS SCREENING ADJACENT TO NEW HOUSE

SCADA & ELECTRICAL ASSESSMENT

SCADA System:

Communications: RADIO
 Antenna: YES
 Battery Backup: YES

Control Panel:

Enclosure Condition: GOOD
 Weather Protection: YES
 GFCI Receptacles: YES

Safety:

Intrinsically Safe Devices: NO
 Surge Protection: YES
 Grounding: YES
 Seals: ADEQUATE

Power Supply:

Power: 3PH/ 480 Volts
 Meter #: 2398444
 Power Monitor Unit: NO

Emergency Provisions:

Standby Generator: NO
 Load Bank: NO
 Transfer Switch Type: BREAKER SWITCHES
 Quick Connect Ports: YES
 Longest Electrical Outage Time: 3:00:00
 Estimated Portable Generator Transport Time: 8 MINUTES

Electrical Notes:

EXTERNAL TRANSFORMER CABINET

Site 28	The Preserve Lift Station	PUMP DRAWDOWN & DESIGN CALCULATIONS Date of Test: 5/9/2016 Conducted by: CITY Time of Day: 1:30 PM
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LIFT STATION DESIGN PARAMETERS

Design Flow Calculations

Basin Area (acre):	136.0
Basin Population:	654
Average Daily Flow (mgd):	0.059
Average Daily Flow (gpm):	41
Infiltration & Inflow (mgd):	0.054
Peak Wet Weather Flow (mgd):	0.336
Peak Wet Weather Flow (gpm):	233

Wet Well Configuration & Pump Setting Elevations

Wet Well Shape:	Circular	Top Slab:	486.00'
Wet Well Size:	6' Diameter	High-Water Alarm:	470.42'
Wet Well Depth (ft):	24.6	Lag Pump On:	465.42'
Surface Area (sft):	28.27	Lead Pump On:	464.36'
Operating Range (ft):	1.96	All Pumps Off:	462.40'
		Bottom Slab:	461.40'

PUMP DRAWDOWN TEST RESULTS

Pump Number	Test #	Drawdown		Inflow / Fill		Measured Discharge (gpm)	Measured Inflow (gpm)	Pumping Rate (gpm)	Average Pumping Rate (gpm)
		Time _d (seconds)	Depth _d (ft.)	Time _f (seconds)	Depth _f (ft.)				
1	1	65	1	310	1	195.2	40.9	236.1	242.5
	2	61	1	310	1	208.0	40.9	248.9	
2	1	101	1	310	1	125.6	40.9	166.5	206.0
	2	62	1	310	1	204.7	40.9	245.5	
1 & 2	1	46	1	310	1	275.9	40.9	316.7	294.2
	2	55	1	310	1	230.7	40.9	271.6	

COMPLIANCE WITH TCEQ REQUIREMENTS

I. DETENTION TIME

Required Detention Time ¹	min	20
Two-Hour Peak Flow	mgd	0.336
Required Retention Volume	gal.	4,665
Required Retention Volume	CF	624
Wet Well Retention Volume	CF	564
Volume In Upstream Lines	CF	606
Retention Volume Provided	CF	1,170
Additional Volume Needed	CF	Adequate
Calculated Detention time:	min	37.5

Adequate

II. CYCLE TIME & MINIMUM VOLUME

		Pump-1	Pump-2	
Minimum Cycle Time ¹	min	6	6	For 30.8 HP Pump
Measured Pump Rate	gpm	242.5	206.0	
Cycle Time (Average Flow)	min	12.2	12.7	
Cycle Time (Peak Flow)	min	47	Lag Rqd.	
Pump Starts Per Hour	#	4.9	4.7	TCEQ (Max. 10/hr.)
Minimum Volume Required	gal.	364	309	
Minimum Volume Required ²	CF	49	41	
'Active' Volume Provided ³	CF	55	55	

Pump-1: Adequate

Pump-2: Adequate

		Pump-1	Pump-2
Time to Fill (Average Flow)	min	10.1	10.1
Time to Pump (Average Flow)	min	2.1	2.5
Time to Fill (Peak Flow)	min	1.8	1.8
Time to Pump (Peak Flow)	min	44.8	-15.2

¹ Requirement of 30 TAC Chapter 217 - Minimum Cycle time is greater for pumps with higher horsepower

² Calculated with 30 TAC Chapter 217.60(b)(8) Equation C.4.

³ Active volume is defined by normal operation settings range 'Pumps Off' to 'Lead Pump On'

Site

28

The Preserve Lift Station

PUMP & SYSTEM CURVES

Date of Test: 5/9/2016

Conducted by: CITY

Time of Day: 1:30 PM

DESIGN & PUMPING ASSESSMENT

System Curve Calculations

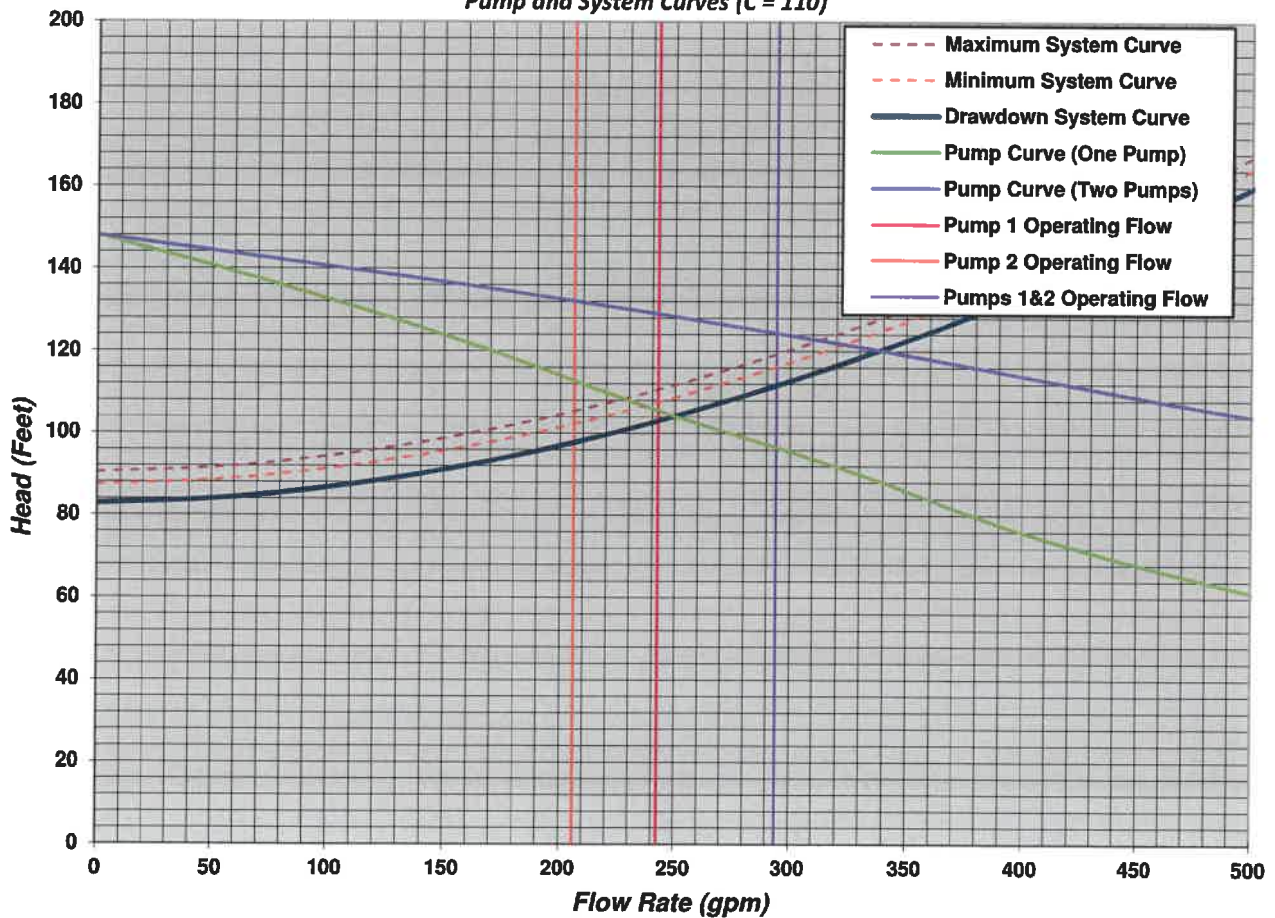
Force Main Diameter:	6"
Force Main Length:	2726.04'
End of Force Main Elevation:	552.83'
Force Main High Point Elevation:	552.83'
Water Elevation At Drawdown:	470'
Static Head Range:	87.4 to 90.4
Static Head Tested:	82.8'
Hazen Williams Coefficient:	110
Min. Velocity in Force Main (fps):	2.34
Travel Time in Force Main:	19.4 minutes

Drawdown Results and Comparison

Pumping Sequence	Drawdown		Design		Difference (gpm)
	Measured Pumping Rates (gpm)	Velocity	Pump Rates (gpm)	Total Dynamic Head (ft.)	
Pump 1	242.5	2.8	231	107.5	12
Pump 2	206.0	2.3	231	107.5	-25
Pumps 1&2	294.2	3.3	311	120.9	-17

The Preserve Lift Station

Pump and System Curves (C = 110)



Observations:
