

SHORT FORM OF AGREEMENT BETWEEN OWNER AND ENGINEER FOR PROFESSIONAL SERVICES

This is an Agreement between **The City of Deer Park** (Owner) and **Civitas Engineering Group** (Engineer). Owner's Project, of which Engineer's services under this Agreement are a part, is generally identified as **Dynamic Water Model Development and Existing System Analysis** (Project). Engineer's services under this Agreement (Services) are generally identified as **development of a water system model of the city's distribution system**.

Owner and Engineer further agree as follows:

1.01 Services of Engineer

- A. Engineer shall provide or furnish the Services set forth in this Agreement, and any Additional Services authorized by Owner and consented to by Engineer.

2.01 Owner's Responsibilities

- A. Owner shall provide Engineer with existing Project-related information and data in Owner's possession and needed by Engineer for performance of Engineer's Services. Owner will advise the Engineer of Project-related information and data known to Owner but not in Owner's possession. Engineer may use and rely upon Owner-furnished information and data in performing its Services, subject to any express limitations applicable to the furnished items.
 - 1. Following Engineer's assessment of initially-available Project information and data, and upon Engineer's request, Owner shall obtain, furnish, or otherwise make available (if necessary through retention of specialists or consultants) such additional Project-related information and data as is reasonably required to enable Engineer to complete its Services; or, with consent of Engineer, Owner may authorize the Engineer to obtain or provide all or part of such additional information and data as Additional Services.
- B. Owner shall provide necessary direction and make decisions, including prompt review of Engineer's submittals, and carry out its other responsibilities in a timely manner so as not to delay Engineer's performance. Owner shall give prompt notice to Engineer whenever Owner observes or otherwise becomes aware of (1) any relevant, material defect or nonconformance in Engineer's Services, or (2) any development that affects the scope or time of performance of Engineer's Services.

3.01 Schedule for Rendering Services

- A. Engineer shall complete its Services within the following specific time period: **See Attachment A – Proposal**. If no specific time period is indicated, Engineer shall complete its Services within a reasonable period of time.
- B. If, through no fault of Engineer, such periods of time or dates are changed, or the orderly and continuous progress of Engineer's Services is impaired, or Engineer's Services are delayed or suspended, then the time for completion of Engineer's Services, and the rates and amounts of Engineer's compensation, shall be adjusted equitably.

4.01 Invoices and Payments

- A. Invoices: Engineer shall prepare invoices in accordance with its standard invoicing practices and submit the invoices to Owner on a monthly basis. Invoices are due and payable within 30 days of receipt.
- B. Payment: As compensation for Engineer providing or furnishing Services and Additional Services, Owner shall pay Engineer as set forth in this Paragraph 4.01, Invoices and Payments. If Owner disputes an invoice, either as to amount or entitlement, then Owner shall promptly advise Engineer in writing of the specific basis for doing so, may withhold only that portion so disputed, and must pay the undisputed portion.
- C. Failure to Pay: If Owner fails to make any payment due Engineer for Services, Additional Services, and expenses within 30 days after receipt of Engineer's invoice, then (1) the amounts due Engineer will be increased at the rate of 1.0% per month (or the maximum rate of interest permitted by law, if less) from said thirtieth day; (2) in addition Engineer may, after giving 7 days' written notice to Owner, suspend Services under this Agreement until Engineer has been paid in full all amounts due for Services, Additional Services, expenses, and other related charges, and in such case Owner waives any and all claims against Engineer for any such suspension; and (3) if any payment due Engineer remains unpaid after 90 days, Engineer may terminate the Agreement for cause pursuant to Paragraph 5.01.A.2.
- D. Reimbursable Expenses: Engineer is entitled to reimbursement of expenses only if so indicated in Paragraph 4.01.E or 4.01.F. If so entitled, and unless expressly specified otherwise, the amounts payable to Engineer for reimbursement of expenses will be the Project-related internal expenses actually incurred or allocated by Engineer, plus all invoiced external expenses allocable to the Project, including Engineer's subcontractor and subconsultant charges, with the external expenses multiplied by a factor of: **N/A**
- E. Basis of Payment
 - 1. Lump Sum. Owner shall pay Engineer for Services as follows:
 - a. A Lump Sum amount of **\$149,897.00**.
 - b. In addition to the Lump Sum amount, reimbursement of the following expenses: None.
 - c. The portion of the compensation amount billed monthly for Engineer's Services will be based upon Engineer's estimate of the percentage of the total Services actually completed during the billing period.

5.01 Termination

- A. Termination for Cause
 - 1. Either party may terminate the Agreement for cause upon 30 days' written notice in the event of substantial failure by the other party to perform in accordance with the terms of the Agreement, through no fault of the terminating party.
 - a. Notwithstanding the foregoing, this Agreement will not terminate under Paragraph 5.01.A.1 if the party receiving such notice begins, within 7 days of receipt of such notice, to correct its substantial failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt thereof;

provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such 30-day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided for herein will extend up to, but in no case more than, 60 days after the date of receipt of the notice.

2. In addition to its termination rights in Paragraph 5.01.A.1, Engineer may terminate this Agreement for cause upon 7 days' written notice (a) if Owner demands that Engineer furnish or perform services contrary to Engineer's responsibilities as a licensed professional, (b) if Engineer's services for the Project are delayed or suspended for more than 90 days for reasons beyond Engineer's control, (c) if payment due Engineer remains unpaid for 90 days, as set forth in Paragraph 4.01.C, or (d) as the result of the presence at the Site of undisclosed Constituents of Concern as set forth in Paragraph 6.01.I.
 3. Engineer will have no liability to Owner on account of any termination by Engineer for cause.
- B. Termination for Convenience: Owner may terminate this Agreement for convenience, effective upon Engineer's receipt of notice from Owner.
- C. Payments Upon Termination: In the event of any termination under Paragraph 5.01, Engineer will be entitled to invoice Owner and to receive full payment for all services performed or furnished in accordance with this Agreement, and to reimbursement of expenses incurred through the effective date of termination. Upon making such payment, Owner will have the limited right to the use of all deliverable documents, whether completed or under preparation, subject to the provisions of Paragraph 6.01.F, at Owner's sole risk.
1. If Owner has terminated the Agreement for cause and disputes Engineer's entitlement to compensation for services and reimbursement of expenses, then Engineer's entitlement to payment and Owner's rights to the use of the deliverable documents will be resolved in accordance with the dispute resolution provisions of this Agreement or as otherwise agreed in writing.
 2. If Owner has terminated the Agreement for convenience, or if Engineer has terminated the Agreement for cause, then Engineer will be entitled, in addition to the payments identified above, to invoice Owner and receive payment of a reasonable amount for services and expenses directly attributable to termination, both before and after the effective date of termination, such as reassignment of personnel, costs of terminating contracts with Engineer's subcontractors or subconsultants, and other related close-out costs, using methods and rates for Additional Services as set forth in Paragraph 4.01.F.

6.01 General Considerations

- A. The standard of care for all professional engineering and related services performed or furnished by Engineer under this Agreement will be the care and skill ordinarily used by members of the subject profession practicing under similar circumstances at the same time and in the same locality. Engineer makes no warranties, express or implied, under this Agreement or otherwise, in connection with any services performed or furnished by Engineer. Subject to the foregoing standard of care, Engineer may use or rely upon design elements and information ordinarily or customarily furnished by others, including, but not

limited to, specialty contractors, manufacturers, suppliers, and the publishers of technical standards.

- B. Engineer shall not at any time supervise, direct, control, or have authority over any Constructor's work, nor will Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, or the safety precautions and programs incident thereto, for security or safety at the Project site, nor for any failure of a Constructor to comply with laws and regulations applicable to that Constructor's furnishing and performing of its work. Engineer shall not be responsible for the acts or omissions of any Constructor.
- C. Engineer neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish and perform its work.
- D. Engineer's opinions of probable construction cost (if any) are to be made on the basis of Engineer's experience, qualifications, and general familiarity with the construction industry. However, because Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over contractors' methods of determining prices, or over competitive bidding or market conditions, Engineer cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from opinions of probable construction cost prepared by Engineer. If Owner requires greater assurance as to probable construction cost, then Owner agrees to obtain an independent cost estimate.
- E. Engineer shall not be responsible for any decision made regarding the construction contract requirements, or any application, interpretation, clarification, or modification of the construction contract documents, other than those made by Engineer.
- F. All documents prepared or furnished by Engineer are instruments of service, and Engineer retains an ownership and property interest (including the copyright and the right of reuse) in such documents, whether or not the Project is completed. Engineer grants to Owner a limited license to use the deliverable documents on the Project, extensions of the Project, and for related uses of the Owner, subject to receipt by Engineer of full payment due and owing for all Services and Additional Services relating to preparation of the deliverable documents, and subject to the following limitations:
 - 1. Owner acknowledges that such documents are not intended or represented to be suitable for use on the Project unless completed by Engineer, or for use or reuse by Owner or others on extensions of the Project, on any other project, or for any other use or purpose, without written verification or adaptation by Engineer;
 - 2. any such use or reuse, or any modification of the documents, without written verification, completion, or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Owner's sole risk and without liability or legal exposure to Engineer or to its officers, directors, members, partners, agents, employees, and subconsultants;
 - 3. Owner shall indemnify and hold harmless Engineer and its officers, directors, members, partners, agents, employees, and subconsultants from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification of the documents without written verification, completion, or adaptation by Engineer; and

4. such limited license to Owner shall not create any rights in third parties.
- G. Owner and Engineer agree to transmit, and accept, Project-related correspondence, documents, text, data, drawings, information, and graphics, in electronic media or digital format, either directly, or through access to a secure Project website, in accordance with a mutually agreeable protocol.
- H. Waiver of Damages; Limitation of Liability: To the fullest extent permitted by law, Owner and Engineer (1) waive against each other, and the other's officers, directors, members, partners, agents, employees, subconsultants, and insurers, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this Agreement or the Project, from any cause or causes, and (2) agree that Engineer's total liability to Owner under this Agreement shall be limited to \$100,000 or the total amount of compensation received by Engineer, whichever is greater.
- I. The parties acknowledge that Engineer's Services do not include any services related to unknown or undisclosed Constituents of Concern. If Engineer or any other party encounters, uncovers, or reveals an unknown or undisclosed Constituent of Concern, then Engineer may, at its option and without liability for consequential or any other damages, suspend performance of Services on the portion of the Project affected thereby until such portion of the Project is no longer affected, or terminate this Agreement for cause if it is not practical to continue providing Services.
- J. Owner and Engineer agree to negotiate each dispute between them in good faith during the 30 days after notice of dispute. If negotiations are unsuccessful in resolving the dispute, then the dispute will be mediated. If mediation is unsuccessful, then the parties may exercise their rights at law.
- K. This Agreement is to be governed by the laws of the state in which the Project is located.
- L. Engineer's Services do not include: (1) serving as a "municipal advisor" for purposes of the registration requirements of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) or the municipal advisor registration rules issued by the Securities and Exchange Commission; (2) advising Owner, or any municipal entity or other person or entity, regarding municipal financial products or the issuance of municipal securities, including advice with respect to the structure, timing, terms, or other similar matters concerning such products or issuances; (3) providing surety bonding or insurance-related advice, recommendations, counseling, or research, or enforcement of construction insurance or surety bonding requirements; or (4) providing legal advice or representation.

7.01 Definitions

- A. Constructor—Any person or entity (not including the Engineer, its employees, agents, representatives, subcontractors, and subconsultants), performing or supporting construction activities relating to the Project, including but not limited to contractors, subcontractors, suppliers, Owner's work forces, utility companies, construction managers, testing firms, shippers, and truckers, and the employees, agents, and representatives of any or all of them.
- B. Constituent of Concern—Asbestos, petroleum, radioactive material, polychlorinated biphenyls (PCBs), lead based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or

becomes listed, regulated, or addressed pursuant to laws and regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

8.01 Successors, Assigns, and Beneficiaries

A. Successors and Assigns

1. Owner and Engineer are hereby bound and the successors, executors, administrators, and legal representatives of Owner and Engineer (and to the extent permitted by Paragraph 8.01.A.2 the assigns of Owner and Engineer) are hereby bound to the other party to this Agreement and to the successors, executors, administrators, and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements, and obligations of this Agreement.
2. Neither Owner nor Engineer may assign, sublet, or transfer any rights under or interest (including, but without limitation, money that is due or may become due) in this Agreement without the written consent of the other party, except to the extent that any assignment, subletting, or transfer is mandated by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

- B. Beneficiaries: Unless expressly provided otherwise, nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by Owner or Engineer to any Constructor, other third-party individual or entity, or to any surety for or employee of any of them. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of Owner and Engineer and not for the benefit of any other party.

9.01 Total Agreement

- A. This Agreement (including any expressly incorporated attachments), constitutes the entire agreement between Owner and Engineer and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

This Agreement's Effective Date is **November 18, 2025**.

Owner:

City of Deer Park
(name of organization)

By: _____
(authorized individual's signature)

Date: November 18, 2025
(date signed)

Name: Jerry Mouton
(typed or printed)

Title: Mayor
(typed or printed)

Address for giving notices:

City of Deer Park Public Works Dept.

PO Box 700

Deer Park, TX 77536

Designated Representative:

Name: David Van Riper
(typed or printed)

Title: Director of Public Works
(typed or printed)

Address:

710 E San Augustine

Deer Park, TX 77536

Phone: 281-478-7243

Email: dvanriper@deerparktx.org

Engineer:

Civitas Engineering Group
(name of organization)

By: _____
(authorized individual's signature)

Date: November 7, 2025
(date signed)

Name: Sunil Kommineni, PhD, PE, BCEE
(typed or printed)

Title: President
(typed or printed)

Address for giving notices:

2000 W. Sam Houston Pkwy S.

Suite 1400

Houston, TX 77042

Designated Representative:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

Phone: 713-231-4403

Email: skommineni@civitasengr.com



ATTACHMENT 'A' PROPOSAL



November 6th, 2025

David Van Riper
Public Works Director
City of Deer Park
710 E. San Augustine
Deer Park, Texas 77536

**Re: City of Deer Park (PWS No. TX1010007)
Proposal for Dynamic Water Model Development and Existing System Analysis**

SCOPE OF SERVICES

The City of Deer Park (City) provides water and wastewater services to its residents within the service area. The City serves ~35,000 people through ~14,000 service connections. The City requested that Civitas Engineering Group, Inc. (Civitas) submit a proposal to develop a water system model of the City's distribution system. The City would like an existing conditions hydraulic model with the ability to evaluate distribution system problem areas (e.g., low residuals or low pressures) and develop solutions. The following is a description of the scope of services that Civitas will provide to meet the City's requirements and needs.

Task 1. Project Management / Meetings

- a) Conduct a project kickoff meeting to identify and establish a clear set of goals and objectives for the project based on City staff input, a review of critical success factors, key schedule milestones, and the preliminary data needs list.
- b) Coordinate progress meetings to review work completed to date, review the schedule and planned work, and identify action items. Schedule and coordinate project workshops at key milestones. Coordination will include the preparation of materials and exhibits or slides to facilitate discussions during workshops.
- c) Present key findings and recommendations of the study to the City in management briefings.
- d) Generate monthly status reports and invoices to be submitted together for review and approval by the City Project Manager.

Deliverables

- Project kickoff meeting agenda, minutes, presentation slides and list of data needs.
- Project progress meeting agenda, minutes, presentation slides, and handouts.
- Management briefing presentations.

Assumptions

- This scope assumes up to four virtual progress meetings spread evenly over the duration of the project.
- This scope assumes one management briefing presentation towards the end of the project.



Task 2. Model Development Data Collection and Review

Civitas will gain an understanding of the existing water system configurations and operation through discussions with City staff. Civitas will collect and review the following:

- a) The number of active water service connections.
- b) Historical water billing data.
- c) Historical water utilization, groundwater pumpage and seasonal variation of demands data.
- d) Historical operations data (flow, pressure set points etc.) for water plants.
- e) Pump curves for pumps at various pumping facilities. For pumps with missing pump curves, scope assumes City will engage a contractor to perform pump curve testing.
- f) GIS data for water infrastructure and maps of City service areas for water infrastructure.
- g) Maps and attributes of the City's pipelines and storage facilities, including planned water infrastructure improvements.
- h) Available topography and survey data, including any digital elevation model (DEM) data for water pipelines and sanitary sewer lines. Civitas will obtain LiDAR data from Harris-Galveston Area Council (HGAC) databases.
- i) Pertinent design and operational information for key water infrastructure such as water plants, pump stations, storage facilities, and large-diameter transmission lines. Available as-builts and construction record drawings and reports for key water infrastructure.
- j) Operational control logic and associated information for wells, surface water supply, valves, pumps, and storage facilities.
- k) Previous capacity assessment and master planning reports for water system.
- l) Fire hydrants flushing flow and pressure data.

Civitas will apply the knowledge gained from this task with analysis for the subsequent tasks. Based on review of the available information, Civitas will identify data gaps and make recommendations to gather the missing data or information.

Deliverables

- Updated maps of City service area, ETJ area, and key water infrastructure.

Assumptions

- This scope assumes that the City will provide the pertinent information/reports/data to Civitas within 2 to 3 weeks from receiving requests.
- This scope assumes that the City will provide most of the available information and data in electronic format to expedite delivery of the project.
- This scope does not include any surveying or field work to verify elevations of key water infrastructure. If surveying is necessary, then City will engage a third-party surveyor.
- For pumps with missing pump curves, scope assumes City will engage a contractor to perform pump curve testing.



Task 3. Existing Dynamic Water Model Development

- a) **Water Facilities Inventory** – Civitas will conduct site visits to the groundwater wells, water plants, and storage facilities. During the site visits, Civitas will collect data pertinent to water model development. Civitas will discuss the operational controls and setpoints with the City operations staff.
- b) **Water Demand Development** – Demand development is one of the key aspects of water system modeling and master planning. Existing demands will be allocated in the model based on water billing data, and existing water production and pumping data. Unaccounted for water calculations will be performed based on the water production/pumping and billing data. Unaccounted for water information will be integrated into the water model.
- c) **GIS Data Processing for Incorporation into the Water Model** – Civitas will process the water infrastructure data to include in the water system model. Data processing will involve a close review of the distribution system mains and junctions data. Civitas will prepare the data by identifying and addressing any issues related to hydraulic connectivity and pipe network. Where necessary, extraneous information and redundant pipes will be removed.
- d) **Water Model Development** – Civitas will develop an Extended Period Simulation (EPS) hydraulic model for the City's water distribution system utilizing Bentley's WaterGEMS V8i modeling software and the available GIS information. This model will be a distribution system mains model and will not be an all-pipes model. The model will not include small diameter service lines. Most benefits of the model, for operational scenarios and water quality assessments, can be derived from a model with information on pipelines 6-inch diameter or larger. Model development efforts for this project will focus on 6-inch or larger diameter pipelines with incorporation of smaller diameter (2-inch through 4-inch) pipelines where necessary to improve model performance and complete the system loops. Civitas will incorporate the water system infrastructure information that includes groundwater wells, groundwater plants, surface water supply, pump stations, ground storage tanks, elevated storage tanks, pressure regulating valves, and pipelines into the model. Civitas will build the model using the data collected in Task 2.

Civitas will use the information gathered in Task 2 to develop and spatially allocate the water demands in the model. Civitas, with assistance from City staff, will identify and develop the appropriate diurnal demand patterns for major customer types that include residential and commercial customers. Civitas, in coordination with City's operation staff, will identify the necessary controls to capture the operations philosophy and incorporate it into the hydraulic model.

Deliverables

- Updated summary list of the GIS data processed

Assumptions

- The City will conduct verification and validation of the water system infrastructure information prior to sharing it with Civitas.
- The City staff will perform field activity related to verifying data such as pipe diameters,



closed valves, system connections, and looped lines, where necessary.

- City will engage a third-party surveyor to provide any missing data related to elevations of key water infrastructure.

Task 4. Model Calibration, Existing System Analysis, and Operational Modeling

- a) **Water Model Calibration** – Civitas will develop a model calibration plan which will include collection of operations and field data to efficiently calibrate the water model. Civitas will review the draft calibration plan in a progress meeting and finalize the plan after addressing comments from the City staff. Calibration will include collection of operations and field data for up to two weeks from a few shortlisted locations of the distribution system. Field data collection will include installation of digital hydrant pressure loggers at 6 to 8 locations that are representative of the overall system. Civitas will provide the necessary technical oversight during the installation of the loggers/flow meters and downloading of the information from the data loggers. In addition to hydrant pressure loggers, Civitas will gather any available data from the City's hydrant flow tests. Civitas will use the hydrant pressure loggers and flow test data to calibrate the model. Calibration of the model will include verification/updating of the C-factors for the various pipe types.

Civitas will present the preliminary model results from the calibration process in a progress meeting. Civitas will utilize the discussions with City staff to address any anomalies between model predictions and field observations and refine the model input parameters.

- b) **Existing System Analysis** – Once the EPS Water Model is developed and calibrated, Civitas will perform existing system modeling analysis for the average day demand, maximum day demand, minimum day demand, and fire flow conditions. The model results will be used to assess the ability of the existing distribution system infrastructure to comply with the TCEQ regulatory requirements.
- c) **System Operational Modeling** – Civitas will model up to three operational scenarios to assess the impacts of system operations on flows, pressures and water ages. The conditions for modeling will be identified with input from the City's operations staff. The model results will be used to identify potential solutions for problem areas such as high-water age areas, low residual areas and low water pressure areas.

Deliverables

- Model results as maps for existing system analysis.
- Model results as maps for operational scenarios assessment.
- GIS Shapefiles of processed infrastructure data

Assumptions

- *SCADA data received for calibration will be 5- or 15-minute intervals.*
- *City will provide SCADA data in electronic format.*
- The scope assumes that City staff will provide the necessary field support for model calibration and data collection, including the installation of hydrant pressure loggers and monitoring/logging all pertinent operational data during the field data collection period.



Task 5. Water Model Documentation

- a) ***Develop Recommendations to Address Problem Areas*** – Applying the EPS Water Model, Civitas, in consultation with the City staff, will develop recommendations for a few key problem areas, e.g., low residual areas and/or low-pressure areas. Civitas will provide strategies or solutions to address the distribution system water quality and pressure issues.
- b) ***Water Modeling Technical Memorandum*** – Civitas will document the EPS Water Model development process and findings in a draft Technical Memorandum. Civitas will submit the draft Technical Memorandum to City for review. Civitas will address comments and finalize the draft Technical Memorandum.

Deliverables

- EPS Water Model of Existing System.
- Water Model Technical Memorandum with Recommendations.

PROPOSED SCHEDULE

Civitas proposes to complete Tasks 1 – 5 within **10 months** from notice-to-proceed. The schedule assumes that the City would provide any information or data requested in a timely manner.



FEE ESTIMATE

Civitas proposes to complete this project on a lump-sum, not-to-exceed basis. The not-to-exceed budgetary fee estimate for performing Tasks 1 – 5 is **\$149,897**. A task-by-task summary of the fee is shown in the following table. The table on the next page has the detailed level of effort.

Task	Fee Estimate (\$)
1. Project Management / Meetings	\$9,310
2. Model Development Data Collection and Review	\$20,210
3. Existing Dynamic Water Model Development	\$66,630
4. Model Calibration, Existing System Analysis, & System Operational Modeling	\$34,611
5. Water Model Documentation with Recommendations	\$19,137
Total Fee	\$149,897

We greatly appreciate the opportunity to submit this proposal for our professional engineering services. Please contact me at (713) 231-4403 or skommineni@civitasengr.com if you have any questions or require additional information.

Sincerely,

Civitas Engineering Group, Inc.

Sunil Kommineni, PhD, PE, BCEE, Env SP

Project Director



ATTACHMENT A
LEVEL OF EFFORT AND FEE ESTIMATE



LEVEL OF EFFORT AND FEE ESTIMATE

Hourly Labor Rate/Billing Rate		\$225		\$150		\$125		\$110			3.00
	Project Role	Project Manager		Sr. Modeler / Sr. Project Engineer		Jr. Modeler/ Engineer III		GIS Specialist/ Engineer II		CIVITAS Fee Estimate	
		Hour	Cost	Hour	Cost	Hour	Cost	Hour	Cost	Hours	Cost
1	Project Management / Meetings										
1a	Kickoff Meeting	1	\$225	4	\$600	4	\$500	-	-	9	\$1,325
1b	Monthly Progress Meetings (Virtual)	4	\$900	8	\$1,200	8	\$1,001	4	\$438	24	\$3,539
1c	Hold Management Briefings to Present Key Findings and Recommendations to City	4	\$900	4	\$600	4	\$500	2	\$219	14	\$2,219
1d	Generate Monthly Status Reports and Invoices	6	\$1,350	-	-	-	-	8	\$876	14	\$2,226
	Project Management / Meetings - Subtotal	15	\$3,375	16	\$2,400	16	\$2,002	14	\$1,533	61	\$9,310
2	Model Development Data Collection and Review										
2a	Collect and Review historical usage and operational data	-	-	6	\$900	12	\$1,501	12	\$1,314	30	\$3,715
2b	Collect and Consolidate Maps of City Service Area, ETJ Area, Large Customers, Key Water Infrastructure, etc.	-	-	4	\$600	16	\$2,002	12	\$1,314	32	\$3,916
2c	Collect and Review Applicable Reports, Technical Memoranda, CIPs, etc.	-	-	6	\$900	16	\$2,002	36	\$3,942	58	\$6,844
2d	Develop a Summary of Information and Data Received and Reviewed	-	-	8	\$1,200	24	\$3,002	14	\$1,533	46	\$5,735
	Model Development Data Collection and Review - Subtotal	-	-	24	\$3,600	68	\$8,507	74	\$8,103	166	\$20,210
3	Existing Dynamic Water Model Development										
3a	Water Facilities Inventory and Integration	1	\$225	12	\$1,800	48	\$6,005	24	\$2,628	85	\$10,658
3b	Water Demand Development	2	\$450	32	\$4,800	60	\$7,506	24	\$2,628	118	\$15,384
3c	GIS Data Processing for Incorporation into the Water Model	1	\$225	16	\$2,400	24	\$3,002	56	\$6,132	97	\$11,759
3d	Water Model Development	2	\$450	72	\$10,800	88	\$11,009	60	\$6,570	222	\$28,829
	Existing Dynamic Water Model Development - Subtotal	6	1,350	132	19,800	220	27,522	164	17,958	522	\$66,630
4	Model Calibration, Existing System Analysis, and System Operational Modeling										
4a	Water Model Calibration	-	-	36	\$5,400	40	\$5,004	12	\$1,314	88	\$11,718
4b	Existing System Analysis	-	-	32	\$4,800	40	\$5,004	12	\$1,314	84	\$11,118
4c	System Operational Modeling	-	-	32	\$4,800	40	\$5,004	18	\$1,971	90	\$11,775
	Model Calibration, Existing System Analysis, & System Operational Modeling- Subtotal	-	-	100	15,000	120	15,012	42	4,599	262	\$34,611
5	Water Model Documentation										
5a	Develop Recommendations for Problem Areas	2	\$450	12	\$1,800	36	\$4,504	12	\$1,314	62	\$8,068
5b	Water Model Documentation (Technical Memorandum)	2	\$450	22	\$3,300	34	\$4,253	28	\$3,066	86	\$11,069
	Water Model Documentation- Subtotal	4	\$900	34	\$5,100	70	\$8,757	40	\$4,380	148	\$19,137
	Total	25	5,625	306	45,900	494	61,799	334	36,573	1,159	\$149,897