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Mr. Tim Howe, Director of Water/Wastewater
City of Seguin
P.O. Box 591
Seguin, Texas 78156-0591

**RE: Walnut Branch WWTP Decommissioning
Geronimo Creek WWTP Expansion to 12.0 MGD
Sewer Transfer Pump Station and Force Main Pipeline
Engineering Services Proposal**

Dear Mr. Howe:

As requested by the City of Seguin (City), TRC Engineers, Inc. (TRC) has prepared this proposal for professional engineering services for the proposed decommissioning of the City's Walnut Branch Wastewater Treatment Plant (WWTP), to include:

1. Decommissioning of the Walnut Branch WWTP and construction of a sewer pump station on the site to transfer flow to the Geronimo Creek WWTP site.
2. Construction of a double barrel Sewer Force Main Pipeline connecting the two wastewater plant sites.
3. Flow expansion of the Geronimo Creek WWTP. The plant's flow will be increased to 12.0 MGD average flow and 36.0 MGD peak flow.

PROJECT SUMMARY

The project will consist of professional engineering services in support of the following three (3) projects:

1. Decommissioning of the Walnut Branch WWTP and Transfer Pump Station
 - a. Flow stoppage and dewatering of the basins.
 - b. Removal and off-site disposal of the above-ground structures, buildings, equipment, roadways, etc. to a depth of three feet below finished grade.
 - c. Removal of site perimeter fence.
 - d. Demolition of the earthen flood protection perimeter berm (that portion bordering on Walnut Branch) and spreading the soil within the site.
 - e. Provide requirements in construction bid packet for clean closure of sludge drying beds.
 - f. Walnut Branch WWTP Transfer Pump Station
 - 1) Extension (approximately 100 linear feet) of the proposed Walnut Branch 42" gravity sewer main to the lift station.

- 2) Extension (approximately 400 linear feet) of a new 30" gravity sewer main from the plant headworks to the lift station.
- 3) Construction of a maximum 29.4 MGD (firm capacity) sewer pump station with five (5) submersible sewage pumps, standby electrical generator, electrical controls, SCADA, liquid chemical feed system for odor control, access roadway and security fence. The proposed station will be located in the northwest corner of the site, near the existing pump station.

2. Sewer Force Main Pipeline

- a. Double barrel sewer force main pipeline, approximately 21,700 feet long, extending from the proposed transfer pump station at the Walnut Branch site, boring under Walnut Branch into East Starcke Park, boring under the Guadalupe River twice, boring under Hwy. 123 bypass, boring under Geronimo Creek, and terminating at the proposed headworks structure at the Geronimo Creek WWTP.

3. Geronimo Creek WWTP Expansion

a. Raw Sewage Lift Station

- 1) Four new submersible pumps. New discharge pipe for Pump No. 4 only.
- 2) Force main extension.
 - i. Extend two 20" force mains to proposed headworks structure.
 - ii. Provide multiple quick connects with valve for bypass pumping.
- 3) Replace emergency generator.
 - i. Abandon/remove existing generator and elevated platform.
 - ii. Construct new elevated steel structure to facilitate the new generator and control panels. The platform elevation will be above the 100-year flood elevation as shown on the FEMA Firm Map 48187C0295F.
- 4) Motor controls with variable speed drives.
- 5) Increase pump lift crane capacity (if needed).
- 6) SCADA – Pump on/off status, VFD speed, pump run time, and alarms.

b. Headworks

- 1) New concrete structure.
- 2) Two mechanically-cleaned bar screens and one manually-cleaned bar screen on bypass channel.
- 3) Channel flow control gates.
- 4) Screenings conveyor/compactor.
- 5) Influent flow meters mounted on the raw sewage force main pipelines.
- 6) Grit removal basin/equipment with pumps and washer/classifier.

- 7) Electrical and lighting.
- 8) SCADA - Equipment run status/failure alarm and influent flow monitoring.
- c. Aeration Basins
 - 1) Four (4) new concrete, common wall basins, each rated for 3.0 MGD with effluent boxes and flow control gates.
 - 2) Fine bubble membrane aeration diffusers.
 - 3) Aeration blowers with concrete slab and CMU building, air piping, and valves.
 - 4) Motor controls with variable speed drives (controlled from aeration basin dissolved oxygen).
 - 5) SCADA – Dissolved oxygen and MLSS measurement. Provide blower control from dissolved oxygen.
- d. Final Clarifier Nos. 3, 4 and 5
 - 1) Final clarifier structures with sludge removal mechanisms.
 - 2) Clarifier flow split box for five clarifiers.
 - 3) Common RAS Pump Station – Direct connect pumps to clarifier sludge underflow piping; pumps to have VFD's for RAS flow control. Pumps to be self-priming style.
 - 4) Common Scum Pump Station – Wet well with submersible grinder pumps.
 - 5) Automatic valve system with timer for WAS wasting control.
 - 6) Chlorine feed for filamentous bacteria control.
 - 7) Motor controls.
 - i. SCADA - Monitor ammonia concentration in effluent, sludge blanket monitors for all clarifiers.
- e. Tertiary Filters
 - 1) Concrete filter structure with three cloth media disk filters.
 - 2) Piping and valves.
 - 3) Motor controls.
 - i. SCADA - Connect to filter control panel and monitor alarms.
- f. Disinfection
 - 1) Two proposed concrete chlorine contact basins with concrete baffles.
 - 2) Scum removal system for basins.
 - 3) Flow split structure for four basins.
 - 4) Chlorination/dechlorination feed equipment in new buildings.

- 5) Flow control gates.
 - 6) SCADA - Leak detectors for Cl₂ and SO₂, monitor chlorine residual before and after dechlorination, and monitor pH and DO.
- g. Effluent Flow Measurement
- 1) Flow measurement structure with parshall flume.
 - 2) Sample building - ISCO refrigerated samplers, potable water, Heat/AC, work table.
 - 3) Sample station to collect grab samples.
 - 4) SCADA - Monitor flow.
- h. Effluent Piping
- 1) New plant discharge pipe to Geronimo Creek.
 - 2) Parallel existing discharge pipe.
 - 3) Existing creek outfall structure to remain in use.
- i. Aerobic Digesters (Convert existing Aeration Basin into two basins)
- 1) Modify existing Concrete basin walls and construct new divider wall.
 - 2) Coarse bubble aeration diffusers.
 - 3) Aeration blowers with concrete slab, canopy, air piping and valves.
 - 4) Sludge piping.
 - 5) Decanting equipment.
 - 6) Motor controls.
 - 7) Three (3) sludge pumps for feeding belt filter presses.
 - 8) SCADA – monitor equipment status and alarms.
- j. Gravity Sludge Thickening
- 1) Two gravity sludge thickeners using common-wall concrete construction with sludge collection mechanisms.
 - 2) Pre-mix basin with coarse bubble diffusers.
 - 3) Airlift pumps for thickened sludge/scum removal to digesters.
 - 4) SCADA – monitor equipment status and alarms.
- k. Sludge Dewatering Building
- 1) Two belt filter presses with support structure and metal roof canopy.
 - 2) Sludge conveyors for discharging cake into dumpster trucks.
 - 3) CMU room for polymer feed and motor controls.

- 4) Piping and valves.
- 5) Motor controls.
- l. Administration Building and Laboratory
 - 1) Location near plant entrance.
 - 2) Full laboratory with equipment.
 - 3) Control room.
 - 4) Electrical and lighting.
 - 5) IT space and record retention storage.
 - 6) Convert existing operations building to electrical building.
- m. Maintenance Building
 - 1) Metal building on concrete slab.
 - 2) Parking for maintenance equipment.
 - 3) Building electrical and lighting.
 - 4) Provide work bench, equipment hoist, welder, compressed air and small tools.
- n. Sitework
 - 1) New concrete roads.
 - 2) Concrete sidewalks.
 - 3) Relocate intruder resistant fence to 10-15 feet inside property line.
 - 4) Automatic front gate with keypad and video monitoring, badge/fob access.
 - 5) Miscellaneous site electrical including site LED lighting.
 - 6) Miscellaneous site piping.
- o. Miscellaneous Improvements
 - 1) Plantwide SCADA System to include Tower
 - i. Remote monitoring/control with laptops.
 - ii. Web based.
 - iii. Password control.
 - 2) Motor operators for frequently operated gates (SCADA controlled).
 - 3) Replace/upsized plant emergency electrical generator.
 - i. Consider capability to use generator for peak shaving (requires separate controls).

p. Stormwater Detention Pond

- 1) A single earthen detention pond will be sized to detain the increased stormwater runoff flow for the 2, 10, 25, 50 and 100 year storm events.

q. Existing Plant Rehabilitation

- 1) Repave existing asphalt roads.
- 2) Rebuild drying beds (Bid as Additive Alternate).
- 3) Existing clarifier rehabilitation (replace entire sludge collection mechanisms).
- 4) Clarifier RAS/Scum pump replacement.
- 5) Demolish mobile press pad.
- 6) Retrofit existing chlorine basins with concrete baffles (if possible).
- 7) Upgrade non-potable pump station for increased flow.

SCOPE OF WORK/WORK TASKS

Task 100. General Requirements

101. Attend kickoff meeting with the City to set major milestone dates, establish design standards and confirm goals and deliverables for the project. TRC will provide meeting minutes to establish agreed-upon determinations. All three of the projects will be discussed in this meeting.
102. Obtain and Review Available Data, including:
 - a) Historical operational data from the existing WWTP's.
 - b) Maps and Data Sources for review of the Design, as provided by the City.
 - c) Soil Surveys.
 - d) USGS 7.5-minute Quadrangle Maps.
 - e) FEMA Firm Map Nos. 48187C0290F (Walnut Branch WWTP Site) and 48187C0295F (Geronimo Creek WWTP Site).
103. Conduct Field Review of Project – Conduct a single field review onsite with representatives of the City to ensure avoidance or minimization of environmental, permitting, and engineering issues and determine presence of any additional constraints.
104. Arrange for and participate in informal meetings with the City throughout the design phase to review progress and exchange ideas and information, as follows:
 - a) A maximum of six (6) meetings for the Walnut Branch Decommissioning and transfer pump station project.
 - b) A maximum of four (4) meetings for the Sewer Force Main Pipeline project.

- c) A maximum of twelve (12) meetings for the Geronimo Creek WWTP project.
105. Arrange for and conduct field WWTP site visits for determination of Plant processes and equipment for the Geronimo Creek WWTP project. A maximum of four (4) site visits are included in TRC's scope. All trips are assumed to be a maximum of one day each (8 hours) and within the Central Texas region.
106. Maintain a log of issues on the design and the party responsible for resolution.
107. Submit applications and/or permits for:
- a) Handicap Accessibility (ADA/TDLR) for the operations building only.
 - b) Texas Commission on Environmental Quality (TCEQ) for the Geronimo Creek WWTP expansion and the closure of Walnut Branch WWTP.
 - c) Guadalupe-Blanco River Authority (GBRA) for the force main River crossings.
 - d) US Army Corps of Engineers, as applicable.
 - e) Texas Department of Transportation (TxDOT) for Hwy 123 Bypass crossing.
108. Prepare construction plans/specifications for the proposed projects, including all details. Construction plans shall include the following primary disciplines, as a minimum:

Walnut Branch WWTP Decommissioning and Lift Station:

- General
- Demolition
- Civil
- Mechanical
- Structural
- Electrical and HVAC
- Process control description for SCADA and P&ID's
- Miscellaneous details
- SWPPP and erosion control plan

Sewer Force Main Pipeline:

- General
- Civil
- Mechanical
- Miscellaneous Details
- SWPPP and erosion control plan

Geronimo Creek WWTP Expansion:

- General
- Demolition
- Civil
- Mechanical
- Structural

- Architectural
- Electrical and HVAC
- Process control description for SCADA and P&ID's
- Miscellaneous details
- SWPPP and erosion control plan

109. A maximum of three (3) individual construction bid packets will be developed and constructed, as follows:

- a) Walnut Branch WWTP Decommissioning, consisting of plant abandonment/demolition and transfer pump station.
- b) Sewer Force Main Pipeline, consisting of double barrel sewer force main pipeline from the transfer pump station to the Geronimo Creek WWTP and Geronimo Creek WWTP effluent pipeline to the existing Geronimo Creek outfall.
- c) Geronimo Creek WWTP Expansion.

It may be determined that it is advantageous to have a single contractor perform the work at both plant sites, to minimize the possibility of having one site completed in advance of the other and to provide single-source responsibility. In this case, there would be two (2) individual construction projects, one for the plant sites and one for the sewer force main pipeline.

110. For all three (3) construction bid packets, provide design submittals to the City for review for 30%, 60%, 90% and 100% completion milestones.

Task 200. Environmental

The following environmental services will be provided and submitted as one single project (the three individual construction projects will be submitted as one).

201. Perform a desktop review to identify existing conditions and documented cultural resources within the area of potential effect (APE) that could potentially be impacted by the proposed Project. This data will be summarized in a letter of consultation and submitted to the Texas Historical Commission (THC) for review.
202. An archeological file search and review of sources will be performed to ensure compliance under the Antiquities Code of Texas. TRC archaeologists will compile current information on previously recorded cultural resources within the APE and within a 1-mile radius of the APE. Other documents including historic aerial photographs and topographic maps, Sanborn maps, and cemetery records may be reviewed. The results of the search will be compiled in a letter report for submittal to the THC.
203. Prepare an assessment of environmental impacts as required by the Texas Water Development Board. The assessment will include direct, indirect, and cumulative impacts of the proposed project and include alternative actions, impact analysis on land use, geology, soils, water resources, floodplains, wetlands and streams, biological resources,

hazardous materials, social implications, other potential impacts or requirements, public participation, federal and state agency coordination and permitting.

Task 300. Preliminary Engineering

Task 310. Topographical Surveying

311. Acquire field topographical data for the design portion of the project on City's coordinate system, to include detailed survey including utility locates (as furnished by the specific utility provider). This will include the areas needed within the city-owned plant property at the two WWTP sites, the sewer force main pipeline, and the outfall pipeline to Geronimo Creek.
312. Provide survey field notes for a maximum of eight (8) property easements (construction and permanent easement for each) for the Sewer Force Main Pipeline project.
313. Provide survey field notes for a maximum of four (4) property easements (construction and permanent easement for each) for the Geronimo Creek WWTP outfall/effluent pipeline.

Task 320. Geotechnical Services

321. Provide geotechnical engineering services as follows:
 - a) For the Walnut Branch WWTP Pump Station – two (2) bores at 50 feet deep.
 - b) For the Sewer Force Main Pipeline project – seven (7) bores at 40 feet deep.
 - c) For the Geronimo Creek WWTP site – four (4) bores at 20 feet deep, six (6) bores at 40 feet deep and fifteen (15) cores at 10 feet deep.
322. Field Investigation – Provide geotechnical exploratory for soil borings in accordance with ASTM D 1586, D 1587 and D 2113. Groundwater observations will be made at boring completion.
323. Laboratory Tests – Unconfined compression tests of soil and rock, liquid limit, plastic limit, sieve analysis, direct shear and triaxial compression test, as applicable, one dimensional consolidation test, moisture content and penetrometer test will be performed on soils, rock formations, and other subsurface conditions, which are required to provide information for design.
324. Geotechnical Report – Prepare a geotechnical report by a qualified geotechnical firm interpreting the data of the exploratory work and testing and setting out the site conditions that can be anticipated from the initial exploratory work, including foundation and pavement design recommendations.

Task 330. Design Memorandum

- 331. Prepare the Basis of Design Memorandum to establish the design parameters for the items listed under Project Summary above. The memorandum will be in accordance with TCEQ's design requirements (Chapter 217, subsection 217.10, paragraph g) and include a flow schematic, site plan, layout of proposed buildings, structures and streets, description of the proposed facilities, and preliminary design calculations. A single Memorandum will be provided for the three (3) construction projects.
- 332. Prepare the Preliminary Engineering Report (PER) as required by the Texas Water Development Board (TWDB) for funding application. A single PER will be provided for the three (3) construction projects.
- 333. Submit three (3) draft copies to the City for review.
- 334. Meet with the City and obtain comments in a single meeting. Resolve any issues if necessary and resubmit three (3) final copies to the City.
- 335. Submit the final Design Memorandum to TCEQ for review. TRC will address one set of comments (if applicable) by TCEQ.
- 336. Submit the final Preliminary Engineering Report to TWDB for review. TRC will address one set of comments (if applicable) by TWDB.

Task 340. Process O&M Manual

- 341. Prepare the Process O&M Manual for the Geronimo Creek WWTP only, to include site plan, flow schematic, hydraulic profile, basin dimensions, flows, return flows, process design calculations and safety requirements. Include descriptions of individual processes/equipment for liquid stream treatment, solids processing treatment and chemical feed systems.
- 342. Submit three (3) draft copies to the City for review.
- 343. Meet with the City and obtain comments in a single meeting. Resolve any issues if necessary and resubmit three (3) final copies to the City.

Task 350. TPDES Permit Amendment Application

- 351. Prepare the TPDES wastewater discharge permit amendment application for the Geronimo Creek WWTP expansion including all maps, calculations, etc. as required in the application, for a single future phase of 12.0 MGD average flow and 36.0 MGD peak flow.

352. TRC will perform water quality modeling for Geronimo Creek and the Guadalupe River, downstream of the plant outfall structure. The purpose of the modeling will be to determine likely effluent limitations for the proposed plant that will allow numerical water quality standards for dissolved oxygen to be maintained. Modeling will be for oxygen-demanding substances (CBOD5 and NH3) and will not address nutrients. The plant's proposed average daily flow will be modeled. Modeling results will be presented to TCEQ following the City's review and concurrence. The QUAL-TX model is used by TCEQ and inputs/results presented to them will be in that format.

353. Prior to submitting the application to TCEQ, submit the application to the City for review. Modify as required, make appropriate copies and submit to TCEQ.

354. TRC will attend a single meeting with TCEQ to discuss the permit application, if necessary.

Task 360. Walnut Branch WWTP – Drying Bed Clean Closure

361. Submit application to TCEQ for the clean closure of the existing sludge drying beds and include in the construction contracts requirements for the contractor to accomplish the clean closure. Submit final report to TCEQ following construction. Laboratory analysis during construction will be furnished by the contractor.

Task 400. Construction Contract Documents

The following items under Task 400 will be provided for each of the three (3) construction projects, unless noted otherwise.

Task 410. Level 1 (30%) Design

411. Provide sketches and drawings showing conceptual plan views of processes and structures.

412. Provide a site plan showing the location of paving and structures and major pipelines.

413. Provide a preliminary P&ID (not applicable to the force main pipeline project).

414. Provide selected cut-section views of structures for clarification as appropriate.

415. A total of three (3) sets of Level 1 documents will be submitted to the City for review.

416. The City will provide a written response to TRC regarding review comments.

417. A single meeting will be conducted with the City to review the comments for each of the projects.

Task 420. Level 2 (60%) Design

421. Provide drawings showing standard details.

- 422. Provide drawings showing the details of pipelines, mechanical equipment, processes and structures to be included in the project.
- 423. Major electrical equipment will be shown on background drawings to indicate preliminary design concepts. Provide WWTP site electrical loads to the City for electrical distribution service to the site. (not applicable to the force main pipeline project)
- 424. Structural drawings and notes will be provided on the major structures.
- 425. Provide preliminary equipment specifications in CSI format including Divisions 0 and 1.
- 426. A total of three (3) sets of Level 2 documents will be submitted to the City for review.
- 427. The City will provide a written response to TRC regarding review comments.
- 428. A single meeting will be conducted with the City to review the comments for each of the projects.
- 429. Update the opinion of probable construction cost based on new information provided.

Task 430. Level 3 (90%) Design

- 431. Provide substantially complete drawings showing the details of all facilities. All drawings will be produced in AutoCAD. Completed standard and general detail sheets will be provided.
- 432. Completed technical specifications and front-end documents will be included. Specifications will include construction sequences and schedules as appropriate. Specifications will be in word format.
- 433. A total of three (3) sets of Level 3 documents will be submitted to the City for review.
- 434. The City will provide a written response to TRC regarding review comments.
- 435. A single meeting will be conducted with the City to review the comments for each of the projects.
- 436. Update the opinion of probable construction cost based on new information provided.

Task 440. Final Drawings and Specifications

- 441. Incorporate all of the City's comments into a final set of drawings and specifications ready for bidding. Provide three (3) sets of documents to the City.
- 442. Submit final documents to TCEQ for review.

Task 450. Pre-award Services

- 451. Coordinate bid letting date, time and place with the City and prepare final Invitation to Bid.
- 452. Assist and advise the City in placing the advertisements of the Invitation to Bid.
- 453. Identify potential contractors and suppliers acceptable to the City and distribute copies of Invitation to Bid.
- 454. Distribute copies of Invitation to Bid to plan rooms and contractor organizations. When requested, furnish copies of the Plans and Specifications to these organizations.
- 455. Set up the project on CivCastusa.com to distribute the contract documents to prospective bidders and plan rooms.
- 456. Distribute plan holders list to recipients of contract documents prior to bid opening. Maintain a record of prospective bidders and suppliers to whom contract documents have been issued.
- 457. Interpret construction contract documents. Prepare and issue addenda to the construction contract documents when required.
- 458. Coordinate pre-bid conference date, time and place with the City, facilitate pre-bid meeting and prepare meeting minutes issued as a project bid addendum. One pre-bid meeting will be held for each of the three (3) projects.

Task 460. Bid Processing

- 461. Assist the City during bid opening, make preliminary tabulation of bids and review bids for completeness.
- 462. Review and evaluate the qualifications of the apparent successful bidder. The review and evaluation will include such factors as work previously completed, equipment and staffing that is available for the work, publicly available financial resources, technical experience and responses from references.
- 463. If applicable, attend one meeting for contractor qualification interviews with City Staff and contractor personnel, for each of the three (3) projects.
- 464. Prepare and distribute formal bid tabulation sheets, evaluate bids, and make written recommendation to the City concerning contract award.
- 465. Prepare conformed set of construction documents to reflect any project addendums or modifications.

Task 500. Pre-Construction & Construction Phase Services

501. Review the Contractor's insurance certificates and forward the certificates to the City for acceptance by the City's legal counsel. Engineer's review of the insurance certificates is only for the purpose of determination if the Contractor maintains the general types and amounts of insurance required by the contract documents and is not a legal review to determine if the Contractor's insurance coverage complies with all applicable requirements.
502. Prepare and distribute five (5) sets of the construction contract documents, to include furnishing to the contractor unsigned documents, review for conformance with contract requirements and transmitting the documents to the City for signature and distribution.
503. At a date and time selected by the City and at a facility provided by the City, attend the preconstruction conference and assist the City during the conference. Prepare an agenda for the conference. The preconstruction conference shall include a discussion of the Contractor's tentative schedules, procedures for transmittal and review of the Contractor's submittals, processing payment applications, critical work sequencing, change orders, record documents, the City's expectations of the Contractor throughout construction, and the Contractor's responsibilities for safety and first aid.
504. Project Administration – Perform project administration services during the pre-construction and construction phases of the project by performing the services described herein. The Engineer shall not have the authority or responsibility to supervise, direct, or control the Contractor's work or the Contractor's means, methods, techniques, sequences, or procedures of construction.
505. The Engineer shall not have the authority or responsibility for safety precautions and programs incident to the Contractor's work or for any failure of the Contractor to comply with laws, regulations, rules, ordinances, codes, or orders applicable to the Contractor furnishing and performing the work.
506. Review and comment on the Contractor' preliminary and baseline schedule and advise the City as to acceptability.
507. Analyze the Contractor's construction schedule, schedule of values, activity sequence, and construction procedures.
508. Review the Contractor's initial and updated schedule of estimated monthly payments and advise the City as to acceptability.
509. Provide inspections/meetings by a registered engineer on an as-needed basis to observe progress of the work and consult with the City and the Contractor concerning problems and progress of the work. The costs provided herein are based on the following maximum inspections/meetings for the three (3) individual bid/constructed projects:
 - a) Walnut Branch WWTP Abandonment and Pump Station: Eighteen (18) inspections/meetings.

- b) Sewer Force Main Pipeline: Twelve (12) inspections/meetings.
- c) Geronimo Creek WWTP Expansion: Forty-eight (48) inspections/meetings.

It is acknowledged that some amount of inspections/meetings will be required that is over and above this amount and if additional inspections/meetings are desired by the City, TRC will submit a separate proposal to address this additional need.

510. Continuous construction inspection is included as a separate cost in the Compensation for Services provided below, and is described as follows:
- a) Services will be provided for a consecutive 24-month construction period for the Walnut Branch WWTP abandonment and pump station and Sewer Force Main Pipeline project. A single individual will be utilized to provide construction inspection for both projects.
 - b) Services will be provided for a consecutive 36-month construction period for the Geronimo Creek WWTP Expansion. A single individual will be utilized to provide the construction inspection.
 - c) Services assume a maximum 50-hour work week, Monday through Friday.
 - d) TRC's on-site inspector will not be a registered professional engineer, but he will have daily communication with the registered senior design engineer responsible for the project.
511. Review drawings and other data submitted by the Contractor as required by the construction contract documents. Engineers review shall be for general conformity with the construction contract documents and shall not relieve the Contractor of any of his contractual responsibilities. Such reviews shall not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions and programs incident thereto.
512. Interpret construction contract documents when requested by the City or the Contractor.
513. Review the Contractor's monthly payment requests. Review shall be for the purpose of making a full independent mathematical check of the Contractor's payment request. Verify the quantities of work which are the basis of payment requests. Provide certification of the payment request to the TWDB.
514. Provide documentation and administer the processing of change orders, including applications for extension of construction time. Evaluate the cost and scheduling aspects of all changes.
515. Interpret claims of the City and the Contractor relating to the acceptability of the work or the requirements of the construction contract documents.
516. Analyze data from performance testing of equipment by the Contractor or supplier when the construction contract documents require the equipment to be tested after installation. Submit conclusions to the City.

517. Receive and review guarantees, bonds and certificates of inspection, which are to be assembled by the Contractor and transmit them to the City.
518. Review and approve equipment O&M manuals and require Contractor to deliver the approved manuals to the City in 3-ring binder sets.
519. Upon substantial completion, in conjunction with the City, prepare a punch list of those items to be completed or corrected before final completion of the project. Submit results of the observation to the City and the Contractor.
520. Upon completion of the items of work on the punch list, conduct a final observation with the City and Contractor to determine if the work is completed. Provide to the City written recommendations concerning final payment, including a list of items, if any, to be completed prior to making such payment.
521. Upon completion of the project, revise the construction contract drawings to conform to the construction records. Record drawings will be based on the information furnished by the contractor, reflecting changes in the project made during construction. Submit four copies of the prints and an electronic version (CD format) to the City.
522. Prior to acceptance of the project, obtain all lien releases, warranty's, and any additional requirements per the contract specifications prior to acceptance.
523. Prepare acceptance letter along with established date for retention release.
524. Submit notice of completed project to TCEQ.

Task 600. Geronimo Creek WWTP Process Startup

601. During process startup of the Geronimo Creek WWTP, provide technical assistance to the City for plant operations process control. This proposal includes an allocation of forty (40) hours and four (4) site visits by a senior staff engineer for this service.

ASSUMPTIONS

As the basis for the preparation of this proposal and the associated cost of services, the following assumptions were made, which if found to be incorrect, may result in additional compensation to TRC:

- TRC is not responsible for the time required by regulatory authorities for the approval process of permits, review of engineering documents, etc. TRC cannot guarantee the issuance of any permits or approvals and costs to file appeals or respond to permit challenges are not included.
- TRC's standard construction contract documents, specifications and drawings will be used for the project. The specifications format will be CSI.

- The City will acquire and provide to TRC access agreements for unfettered access to all private properties by TRC representatives.
- Subconsultants for the use of project design will be selected by TRC.
- There will be a maximum of three (3) individual design/construction projects, consisting of the Walnut Branch WWTP site, the Geronimo Creek WWTP site and the Sewer Force Main Pipeline project. The Geronimo Creek WWTP effluent pipeline may be bid/constructed with the Sewer Force Main Pipeline project.
- TRC's effort and costs for construction services are based on a thirty-six (36) month construction project duration for the Geronimo Creek WWTP project and a twenty-four (24) month construction project duration for the Walnut Branch WWTP project and the Sewer Force Main Pipeline project from the date of the Notice to Proceed to the contractors. If the construction period exceeds these time limits, TRC will provide an additional task order based on then-existing time-and-materials rates.
- Easement field notes will be needed only for the Sewer Force Main Pipeline project and the Geronimo Creek WWTP effluent outfall pipeline project and will be limited to a total of twelve (12) properties.
- On-site, full-time Construction inspection will consist of maximum 50-hour weeks.
- The proposed Geronimo Creek WWTP effluent pipeline will run parallel and adjacent to the existing effluent pipeline.
- For the topographical survey of the River/Creek crossings, changes to the alignment following the initial survey, thus requiring additional survey crossings, will incur additional costs from TRC.
- If two separate contractors are utilized for the work at the plant sites, TRC cannot be held responsible for construction delays that may occur at either site, which may cause delays in starting up one site and potential delay or re-mobilization costs from the contractors.
- Drawings will be prepared utilizing AutoCad drawing software (two dimensional drawings only).
- TRC is responsible for the health and safety of its employees; overall site health and safety is the responsibility of the contractor or other third parties.
- Due to COVID-19, some meetings with the City and other personnel may be required to be done through teleconferencing means.
- There are no anticipated owner-supplied materials or equipment for this project or preparation of separate bid packages for such.
- The general contractor will provide the project commissioning, which will be documented as a requirement in the construction contracts, including but not limited to

vendor/manufacture equipment training/O&M, PLC/SCADA troubleshooting, plant startup (basin dry/wet testing), and basin filling for wastewater treatment commencement.

- Spoil disposal from the Geronimo Creek WWTP and Sewer Force Main Pipeline projects will be disposed of offsite by the contractor. Spoil disposal for the Walnut Branch WWTP Sewer Pump Station project will be spread on site by the contractor.

EXCLUSIONS

The following items are specifically excluded from TRC's scope of work:

- For the TPDES permit amendment application, costs for wastewater sampling and laboratory testing, and services related to response to public comments or for a contested case hearing, if applicable.
- River topographical survey for the TPDES permit amendment application. The previous survey performed for the current TPDES permit will be utilized.
- Design of water reuse pumps and reuse force main pipeline.
- Improvements or relocations for franchise utilities, if applicable.
- Electrical supply upgrades to the WWTP sites, if applicable. This will be evaluated to determine the need for upgrades.
- Improvements to the potable water main that feeds the Geronimo Creek WWTP.
- Abatement, demolition, and means and methods of construction contractor or the work of the construction contractor.
- Improvements to the raw sewage pipeline that feeds the Geronimo Creek WWTP raw sewage lift station.
- Environmental or cultural review of project limits (other than listed above), archaeological surveys, endangered species mitigation plan/costs, or species-specific threatened and endangered survey.
- Hazardous materials assessment and abatement and demolition management/oversight, although TRC can provide these services at an additional cost.
- Detailed title search or title policy, attendance at or preparation for condemnation hearings, plat documents, landowner contact or easement negotiations.
- Clean Water Act Section 404 individual permit and NWP 12 Pre-Construction Notification.
- Design of Landscaping and/or irrigation design, if applicable.
- Geotechnical bores within the River or Creeks.

- Remediation plan for excavated soil or liquid in the event that it is contaminated.
- GIS mapping.
- Construction survey and staking, post construction survey, or quality assurance testing for construction.
- Determination of the FEMA flood plain level (including CLOMR, LOMR, etc.) for the sites or other flood event levels for Walnut Branch, Geronimo Creek or the Guadalupe River.
- Services required to rebid the projects for any reason or to resolve bid protests.
- Storm sewer design.
- Subsurface utility engineering (for surveying).
- Payment of ADA/TDLR application or inspection fees.
- PLC logic description and design, arc flash testing, and breaker coordination for electrical equipment/devices.
- Design of bid alternates or multiple bid packages, unless specifically stated herein.
- Engineering studies of alternative systems and equipment locations.
- Value engineering design services after approval of 100% Construction Documents.
- Any items not reflected in the scope of work/work tasks.
- During the construction phase - Investigations, analyses, studies or design for substitutions of equipment or materials, corrections of defective or deficient work of the contractor or other deviations from the construction contract documents.
- Providing shop, mill, field, laboratory or factory inspection of materials and equipment.
- Analytical testing (including that required for the Walnut Branch WWTP sludge drying bed clean closure) or third party testing for construction QA/QC.
- Procurement services.
- Preparing data and reports for assistance to the City in preparation for hearings before regulatory agencies, courts, arbitration panels or mediators, giving testimony or expert representation or preparations therefore.
- Making revisions to drawings, specifications or other documents when such revisions are not consistent with approvals or instructions previously given to TRC or due to other causes not within the control of TRC.
- Contractor payroll certifications, audits or field interviews of contractor employees related to salaries.

- Payment of fees for permit applications.
- Operator training or O&M instruction services. This will be provided by the individual equipment vendors and manufacturers as part of the construction projects.

COMPENSATION FOR SERVICES

The cost to provide the engineering services will be invoiced as a lump sum project on a percent-complete basis. The invoicing will be phased, as follows:

Phase 1 – Beginning with the City’s fiscal year 2020, the City has previously approved \$1,100,000.00 to TRC towards the preliminary engineering design for the Geronimo Creek WWTP Expansion, to include topographical surveying, geotechnical services, TCEQ discharge permit amendment preparation, TWDB preliminary engineering report, environmental services and preliminary engineering.

Phase 2 – Beginning with City’s fiscal year 2021 and subsequent years, the Geronimo Creek WWTP Expansion engineering design, bidding and construction will be completed and invoiced, as follows:

Engineering Design:	\$8,145,382.00
Bidding/Construction Administration:	\$965,000.00
Continuous Construction Inspection:	<u>\$883,040.00</u>
Phase 2 Total:	\$9,993,422.00

Phase 3 – Beginning with the City’s fiscal year 2022 and subsequent years, the Walnut Branch WWTP abandonment, transfer lift station and transfer force main pipeline engineering design, bidding and construction will be completed and invoiced, as follows:

Engineering Design:	\$3,000,394.00
Bidding/Construction Administration:	\$355,000.00
Continuous Construction Inspection:	<u>\$588,693.00</u>
Phase 3 Total:	\$3,944,087.00

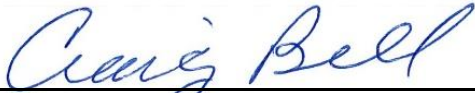
Total Phase 2 and 3: **\$13,937,509.00 (lump sum)**

Services will be provided in accordance with the Master Service Agreement (dated December 16, 2003) executed by the City and TRC. Fees for services quoted in this proposal are valid for a period of time not to exceed 60 days from the date of this letter.

Mr. Tim Howe, City of Seguin
June 29, 2020
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We appreciate the opportunity to assist with this project and are available to proceed immediately with your written approval. Please review this proposal and, upon acceptance, sign in the space provided below.

Sincerely,



H. Craig Bell, P.E.
Austin CES Practice Leader

City of Seguin

June 29, 2020
Date

Date