AGREEMENT

FOR

ENGINEERING SERVICES

This AGREEMENT, between the Norman Utilities Authority (OWNER) and Garver, LLC, (ENGINEER);

WITNESSETH

WHEREAS, OWNER intends to design and build an indirect potable reuse facility located at the Norman Water Reclamation Facility where reuse water can be to be conveyed to Lake Thunderbird in order to provide a drought resilient water supply and supplemental water to Lake Thunderbird. This PROJECT will be identified as the Norman Lake Thunderbird Indirect Potable Reuse (IPR) Project as further described in Attachment B.

WHEREAS, OWNER requires survey, design and engineering services in connection with the PROJECT (the SERVICES); and,

WHEREAS, ENGINEER is prepared to provide said SERVICES; and.

NOW THEREFORE, in consideration of the promises contained in this AGREEMENT, OWNER and ENGINEER agree as follows:

ARTICLE 1 - EFFECTIVE DATE

The effective date of this AGREEMENT shall be the date last executed below.

ARTICLE 2 - COMPLETION DATE

ENGINEER shall complete the SERVICES in accordance with Attachment A, Project Schedule.

ARTICLE 3 - GOVERNING LAW

The laws of the state of Oklahoma shall govern this AGREEMENT.

ARTICLE 4 - SERVICES TO BE PERFORMED BY ENGINEER

ENGINEER shall perform the SERVICES described in Attachment B, Scope of Services.

ARTICLE 5 - COMPENSATION

OWNER shall pay ENGINEER in accordance with Attachment C, Compensation.

ARTICLE 6 - OWNER'S RESPONSIBILITIES

6.1. OWNER-Furnished Data: Upon request, OWNER will provide to ENGINEER all data in OWNER's possession relating to ENGINEER's SERVICES on the PROJECT. Such data may include electronic data available from the OWNER's Geographic Information System (GIS) and data generated by OWNER's water distribution system model. ENGINEER will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by OWNER. OWNER's data is provided for temporary use or copying by ENGINEER.

6.2. Access to Facilities and Property: OWNER will make its facilities accessible to ENGINEER as required for ENGINEER's performance of its SERVICES.

6.3. Timely Review: OWNER will examine ENGINEER's studies, reports, sketches, drawings, specifications, proposals, and other documents; and transmit OWNER comments or other decisions to ENGINEER in a timely manner.

6.4. Meetings: OWNER will participate in monthly progress meetings or other meetings with ENGINEER or contractor(s) defined in Scope of Services.

6.5. Advertisements, Permits, and Access: Unless otherwise agreed to in the Scope of Services, OWNER will obtain, arrange, and pay for all advertisements for bids; permits and licenses required by local, state, or federal

authorities; and land, easements, rights-of-way, and access necessary for ENGINEER's SERVICES or PROJECT construction.

6.6. Hazardous Substances: If hazardous substances in any form are encountered or suspected, ENGINEER will stop its own work in the affected portions of the PROJECT to permit testing and evaluation. ENGINEER will, if requested by OWNER, conduct tests to determine the extent of the problem and will perform the necessary studies and recommend necessary remedial measures at an additional fee with contract terms to be negotiated.Garver shall not assume any role in the identification, evaluation, treatment, storage, disposal, or transportation of any hazardous substance or waste.

ARTICLE 7 - STANDARD OF CARE

ENGINEER shall exercise the same degree of care, skill and diligence in the performance of the SERVICES as is ordinarily possessed and exercised by a professional engineer under similar circumstances. ENGINEER shall correct the SERVICES that fail to satisfy this standard of care. No warranty, express or implied is included in this AGREEMENT or in any drawing, specifications, report or opinion produced pursuant to this AGREEMENT.

ARTICLE 8 - LIABILITY AND INDEMNIFICATION

8.1 General. Having considered the potential liabilities that may exist during the performance of the SERVICES, the benefits of the PROJECT, the ENGINEER's fee for the SERVICES and in consideration of the promises contained in this AGREEMENT, OWNER and ENGINEER agree to allocate and limit such liabilities in accordance with this Article.

8.2 Indemnification and Liability. The ENGINEER agrees to defend, indemnify, and hold harmless the OWNER, its officers, servants, and employees, from and against legal liability for all third party tort claims, losses, damage, cost, and expense (including reasonable attorneys' fees and accountants' fees) from bodily injury (including death) or tangible property damage caused by a negligent act, error, or omission of the ENGINEER in the performance of services under this AGREEMENT. OWNER agrees to defend, indemnify, and hold harmless the ENGINEER, its officers, servants, and employees, from and against legal liability for all claims, losses, damage, cost, and expense (including reasonable attorneys' fees and accountants' fees) caused by a negligent act, error, or omission of the OWNER in the performance of services under this AGREEMENT, provided such indemnification shall be applicable only to the extent sovereign immunity has been waived pursuant to Oklahoma law. The ENGINEER and the OWNER each agree to promptly service notice on the other party of any claims arising hereunder, and shall cooperate in the defense of such claims. The acceptance by OWNER or its representatives of any certification of insurance providing for coverage other than as required in this AGREEMENT to be furnished by the ENGINEER shall in no event be deemed a waiver of any of the provisions of this indemnity provision. None of the foregoing provisions shall deprive the OWNER of any action, right, or remedy otherwise available to OWNER at common law.

8.3 Employee Claims. ENGINEER shall indemnify OWNER against legal liability for damages arising out of claims by ENGINEER's employees. OWNER shall indemnify ENGINEER against legal liability for damages arising out of claims by OWNER's employees.

8.4 Consequential Damages. To the fullest extent permitted by law, ENGINEER shall not be liable to OWNER for any special, indirect or consequential damages resulting in any way from the performance of the SERVICES.

8.5 Survival. Upon completion of all SERVICES obligations and duties provided for in this AGREEMENT or if this AGREEMENT is terminated for any reason the terms and conditions of this Article shall survive.

8.6 Notwithstanding any provision to the contrary herein, to the extent allowed by applicable law, ENGINEER'S (including its subconsultants, agents, assignees, affiliates and vendors) total aggregate liability under the AGREEMENT shall be limited to 100% of the fees contained within the work order giving rise to liability regardless of the cause or action (including negligence).

ARTICLE 9 - INSURANCE

During the performance of the SERVICES under this AGREEMENT ENGINEER shall maintain the following insurance:

9.1 Worker's compensation insurance for ENGINEER's employees as required by Oklahoma Workers Compensation Statutes.

9.2 Comprehensive general liability insurance in the amount of $1,000,000 to include $125,000 per accident for bodily injury or death and $25,000 per occurrence for property damage.

9.3 Comprehensive automobile liability insurance in the amount of $1,000,000 to include $125,000 per accident for bodily injury or death and $25,000 for property damage.

9.4 Professional Liability (errors and omissions) insurance with a policy value of $1,000,000.

ENGINEER shall furnish OWNER certificates of insurance that shall include a provision that such insurance shall not be canceled without at least thirty days written notice to OWNER. All PROJECT contractors shall be required to include OWNER and ENGINEER as additional insured on their General Liability Insurance policies to the extent of the indemnity provided in Article 8.

ENGINEER and OWNER each shall require its insurance carriers to waive all rights of subrogation against the other and its directors, officers, partners, commissioners, officials, agents and employees for damages covered by property insurance during and after the SERVICES. A similar provision shall be incorporated into all contractual arrangements entered into by OWNER and shall protect OWNER and ENGINEER to the same extent.

ARTICLE 10 - LIMITATIONS OF RESPONSIBILITY

ENGINEER shall not be responsible for: (1) construction means, methods, techniques, sequences, procedures or safety precautions and programs in connection with the PROJECT; (2) the failure of any contractor, subcontractor, vendor or other PROJECT participant, not under contract to ENGINEER, to fulfill contractual responsibilities to the OWNER or to comply with federal, state or local laws, regulations, and codes; or (3) procuring permits, certificates and licenses required for any construction unless such responsibilities are specifically assigned to ENGINEER in Attachment B, Scope of Services.

ARTICLE 11 - OPINIONS OF COST AND SCHEDULE

Since ENGINEER has no control over the cost of labor, materials or equipment furnished by others or over the resources provided by others to meet PROJECT schedules, ENGINEER's opinion of probable costs and of PROJECT schedules shall be made on the basis of experience and qualifications as a professional engineer. ENGINEER does not guarantee that proposals, bids, or actual PROJECT costs will not vary from ENGINEER's cost estimates.

ARTICLE 12 - REUSE OF DOCUMENTS

Upon OWNER's request ENGINEER shall furnish OWNER with deliverables and/or other data on electronic media. All documents, including but not limited to, drawings, specifications and computer software prepared by ENGINEER pursuant to this AGREEMENT are instruments of Service in respect to the PROJECT. Said documents are not intended or represented to be suitable for reuse by OWNER or others on extensions of the PROJECT or on any other PROJECT.

ARTICLE 13 - TERMINATION

This AGREEMENT may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the material terms of this AGREEMENT. The non-performing party shall have fifteen (15) calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

OWNER may terminate or suspend performance of this AGREEMENT for OWNER's convenience upon written notice to ENGINEER. ENGINEER shall terminate or suspend performance of the SERVICES on a schedule acceptable to

OWNER. If termination or suspension is for OWNER's convenience, OWNER shall pay ENGINEER for all the SERVICES performed to date, amount not to exceed the normal fee amount due for the SERVICES rendered and termination or suspension expenses. Upon restart, an equitable adjustment shall be made to ENGINEER's compensation.

ARTICLE 14 - DELAY IN PERFORMANCE

Neither OWNER nor ENGINEER shall be considered in default of this AGREEMENT for delays in performance caused by circumstances beyond the reasonable control of the non-performing party. For purposes of this AGREEMENT, such circumstances include, but are not limited to abnormal weather conditions; floods; earthquakes; fire; epidemics; war; riot and other civil disturbances; strikes, work slowdowns and other labor disturbances; sabotage; judicial restraint; and inability to procure permits, licenses, or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses, or SERVICES required to be provided by either OWNER or ENGINEER under this AGREEMENT.

Should such circumstances occur the non-performing party shall, within a reasonable period after being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this AGREEMENT.

ARTICLE 15 - COMMUNICATIONS

Any communication required by this AGREEMENT shall be made in writing to the address specified below:

ENGINEER: Mary Elizabeth Mach, PE
Garver, LLC
1016 24th Avenue NW
Norman OK 73069
405-329-2555
MEMach@GarverUSA.com

OWNER: Chris Mattingly, P.E.
Norman Utilities Authority
201-C West Gray, 73069
P.O. Box 370
Norman OK 73070
405-217-7778
Chris.Mattingly@NormanOK.gov

Nothing contained in this Article shall be construed to restrict the transmission of routine communications between representatives of ENGINEER and OWNER.

ARTICLE 16 - WAIVER

A waiver by either OWNER or ENGINEER of any breach of this AGREEMENT shall be in writing. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

ARTICLE 17 - SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this AGREEMENT or the occurrence of any event rendering any portion or provision of this AGREEMENT void shall in no way affect the validity or enforceability of any other portion or provision of this AGREEMENT. Any void provision shall be deemed severed from this AGREEMENT, and the balance of this AGREEMENT shall be construed and enforced as if this AGREEMENT did not contain the particular portion or provision held to be void. The parties further agree to amend this AGREEMENT to replace any stricken provision with a valid Provision that comes as close as possible to the intent of the stricken provision. The provisions of this Article shall not prevent this entire AGREEMENT from being void should a provision, which is of the essence of this AGREEMENT, be determined void.

ARTICLE 18 - INTEGRATION

This AGREEMENT represents the entire and integrated AGREEMENT between OWNER and ENGINEER. It supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this AGREEMENT. This AGREEMENT, including its attachments and schedules, may only be changed by a written amendment executed by both parties. The following attachments and schedules are hereby made a part of this AGREEMENT:

Attachment A – Schedule
Attachment B - Scope of Services
Attachment C - Compensation

ARTICLE 19 - SUCCESSORS AND ASSIGNS

OWNER and ENGINEER each binds itself and its directors, officers, partners, successors, executors, administrators, assigns, and legal representatives to the other party to this AGREEMENT and to the directors, officers, partners, successors, executors, administrators, assigns, and legal representatives of such other party in respect to all provisions of this AGREEMENT.

IN WITNESS WHEREOF, OWNER and ENGINEER have executed this AGREEMENT.

DATED this _____ day of _____ 2020.

Garver, LLC – ENGINEER

ATTEST

By: _____ _____

Title: Vice President Sr. Project Manager

Norman Utilities Authority- OWNER

APPROVED as to form and legality this _____ day of _____, 2020.

_____
City Attorney

APPROVED by the Trustees of the Norman Utilities Authority this _____ day of _____, 2020.

ATTEST

By: _____ _____

Title:

_____ _____

ATTACHMENT A

PROJECT SCHEDULE

ENGINEER shall commence work under this AGREEMENT within ten (10) days of a Notice to Proceed and shall complete the work in accordance with the schedule below.

Project Task	Duration in Calendar Days
Pilot Design Kick-Off	14 days following receipt of Owner NTP
Draft Feasibility Study Workshop	30 days from Owner NTP
Final Feasibility Study to Owner and ODEQ	15 days following the receipt of Owner comments on the Draft Feasibility Study
Pilot Study Protocol to ODEQ	30 days following Pilot Design Kick-Off
Preliminary (60%) Contract Documents to Owner	90 days following Pilot Design Kick-Off
Final (90%) Contract Documents to Owner	30 days following the receipt of Owner comments on the 60% Drawing Set
Final (90%) Contract Documents to ODEQ	15 days following receipt of Owner comments on 90% Contract Documents
Bidding	20 days following receipt of ODEQ comments
Updated Sampling Plan	15 days following receipt of ODEQ comments
Laboratory Testing Coordination Memo	15 days following completion of Sampling Plan
Updated Pilot Operations and Communications Plan	15 days following the Award to Contractor
Pilot Construction Administration and Observation	120 days following the Contractor NTP
Pilot Testing and Engineering Support	Continuous – following the completion of Pilot construction activities at the Norman WRF
Draft Final Report	60 days following the completion of all pilot testing activities
Revised Final Report	15 days following the receipt of Owner comments on Draft
Final Report	15 days following the receipt of ODEQ comments

ATTACHMENT B

SCOPE OF SERVICES

The scope of services includes piloting, surveying, design, preparation of construction documents, bidding services, and construction phase services for a new indirect potable reuse facility to be located at the Water Reclamation Facitily.

General

The following scope of services describes the study and piloting of biological, chemical, and physical treatment technologies, for practice of indirect potable reuse (IPR), or surface water augmentation, at Lake Thunderbird in Norman, Oklahoma. Garver shall provide professional services for the design of sampling plans, design of pilot treatment trains, bidding of temporary construction infrastructure, coordination of data collection, coordination with the Oklahoma Department of Environmental Quality (ODEQ), and final data reporting. Garver will utilize the *Lake Thunderbird Water Reuse Project – Phase 3 Process Pilot Plan* (Phase 3 Plan) as the basis for the pilot design and testing regime.

The IPR pilot will be located at the Norman Water Reclamation Facility (WRF) and will utilize primary effluent from the WRF. The proposed pilot will tie in to the existing WRF treatment processes and infrastructure in a manner that will minimize disruption to the operations of the facility. Exhibit A identifies the areas at the WRF anticipated to be utilized for the pilot.

1.0 Federal Grant Assistance

Garver will lead the development of an application for Federal funding assistance (in the form of a grant application via grants.gov). Tasks to be completed in this effort include:

- Updated life cycle cost evaluations to compare alternative water supplies, as directed by the Federal Agency,
- Assembly of all proposal components, including required Federal Forms, to develop a complete proposal submittal,
- Development of the technical approach,
- Development of any project and data management plans, and
- Coordination with additional, external project contributors including - but not limited to - equipment manufacturers, governmental and non-governmental organizations, and academic institutions.

The submission of any final proposals, including any additional negotiations or procurement proceedings, for a final award from the Federal Agency will be the responsibility of the Owner. Garver will assist the Owner with development of supplemental information and Final reporting if the Owner is awarded Grant funding for the submitted grant application. Assistance with additional funding opportunities are considered Extra Work (see Section 9.0). Garver's services for the above grant assistance will be provided as an in-kind service with a not-to-exceed amount as summarized in Appendix B. It is anticipated this in-kind service will fulfill a portion of the match-funding condition of the grant, as required by most federal grants, of the Owner.

2.0 Feasibility Study Report

Garver will develop a Feasibility Study for the proposed IPR project to meet Oklahoma Administrative Code (OAC) 252:628-9-2 Permitting Process and Step (1) of the six-step process outlined therein. Specifically 252:628-9-4 is used a guideline for the Feasibility Study as well as the following previously prepared reports and studies: *Lake Thunderbird Augmentation Engineering Report*, March 2015 (by Garver); *Lake Thunderbird Water Reuse Feasibility Report*, October 2012 (by Others); and NUA's Water Supply Plan (by Others). Minimum information to be included in the Feasibility Study is outlined in the table below:

Criteria
(1) An evaluation of the applicant's needs, preferably sourced from the applicant's local Strategic Water Supply Plan, or other similar document;
(2) A description of water reuse and reclamation opportunities;
(3) A description of potential alternatives (including reuse and non-reuse) with comparisons as appropriate of cost effectiveness, operational complexity, environmental impact, reliability, and flexibility;
(4) A discussion of the potential of the project for water supply diversification, such as lowered demand on groundwater supplies in time of drought;

(5) For waterbodies and watersheds designated as SWS-R, a discussion of the project's potential impact on water quality and the environment, including but not limited to a discussion regarding antidegradation requirements, criteria to protect beneficial uses, and assimilative capacity as described in OAC 785:45 and OAC 785:46; and
(6) A discussion of any legal, regulatory, jurisdictional, and partnership concerns regarding the project.

It is anticipated that the Feasibility Study will pull together and organize information from the completed reports mentioned above; additional or new calculations and evaluations are not anticipated and information from the completed reports will be included in the Feasibility Study by reference.

Garver will prepare a draft Feasibility Study for review by the Owner. Owner will provide review comments to Garver for incorporation into the final Feasibility Study. Garver will provide three (3) copies to the Owner and three (3) copies, including a letter of endorsement of the Feasibility Study from the Owner will be submitted to ODEQ.

3.0 IPR Pilot Protocol

Per step 2 of the six-step permitting process outlined in OAC 252:628-9-2 ODEQ Garver will develop a protocol for the Lake Thunderbird IPR Pilot Study and submit two (2) copies of the pilot study protocol to ODEQ for review and approval (OAC 252:628-9-5).

The pilot study protocol will include a schematic and overview of the IPR pilot, the schedule for each pilot process, identification of sample locations, a preliminary list of constituents to be monitored, and the frequency and method for testing.

Garver will participate in bi-weekly conference calls and participate in face-to-face meetings with ODEQ to coordinate the details of the pilot study protocol and its approval.

Garver is assisting the Owner with application for Federal funding assistance for the Lake Thunderbird IPR Pilot and has offered to contribute up to $75,000 if in-kind services as part of match funding requirements. Efforts on the pilot study protocol may be submitted as part of this in-kind contribution.

4.0 IPR Pilot Design

Garver will develop preliminary and final construction documents for up to two (2) parallel pilot treatment trains complete with biological, chemical, and physical advanced treatment technologies intended to test their ability to produce an IPR quality effluent, as recommended in the Phase 3 Plan. Each treatment train will be designed to include strategic sampling locations for the collection of process performance and effluent water quality data.

4.1 Kick-off Workshop

Prior to beginning the Pilot Design, Garver will schedule and conduct a project kick-off workshop to confirm project goals, expectations, anticipated challenges associated with the project, conduct a site visit to confirm pilot location on the WRF site, and define team member roles. Following the meeting, meeting minutes will be prepared by Garver and distributed to attendees. Following the kick-off, Garver will begin Preliminary Design.

4.2 Preliminary Design

The preliminary design phase will represent approximately 60 percent of final construction contract plans for the pilot. Garver anticipates the preliminary design drawings will include a site plan, temporary piping plan, preliminary process and instrumentation diagrams (P&IDs), preliminary layouts of the proposed pilot process trains and associated equipment, description of how pilot trains will interface with existing WRF processes, and preliminary electrical one-line diagrams.

Garver will prepare three (3) hard copies of the Preliminary Design Submittal and submit for review by Owner. This submittal will not include technical specifications or "front end" contract documents. Garver will begin final design until the preliminary design is approved by the Owner in writing.

Following submission of the draft Preliminary Design documents, Garver will lead and participate in a workshop to discuss and review the Preliminary Design, including major process design criteria, site plans, pilot process equipment, and proposed construction sequencing to integrate pilot equipment into existing WRF processes.

As part of the Preliminary Design Workshop, Garver will conduct a discussion to confirm partnerships with sole-sourced equipment providers and confirm Owner preferences for other equipment. Preferences of the Owner's staff will be documented within the preliminary design documents. Meeting Minutes will be prepared and distributed to all attendees following the workshop.

4.3 Final Design

Garver will begin final design after receiving Owner's written approval of preliminary design documents and authorization to proceed with Final Design. During the final design phase of the project, Garver will conduct final designs to prepare construction plans and specifications, for one (1) construction contract, including final construction details and quantities, opinion of probable construction cost (OPCC) for the pilot, and special provisions. The OPCC at this stage of the pilot project can be estimated between -15% to +15% (of actual constructed costs) and are intended to be utilized for cost budgeting and control.

The Contract Documents will consist of drawings and specifications that set forth requirements for construction of up to two (2) pilot Trains (under one (1) construction contract), and shall include proposal forms, notice to bidders, bid forms, bond forms, and other information as required by Owner to competitively bid the work.

Garver's standard contract forms, including documents from the Engineers Joint Contract Documents Committee (EJCDC), will be used along with Garver's standard drawing format and technical specifications.

Garver will submit three (3) copies of the Final Design documents to Owner. Following submission of the Final Design documents, Garver will lead one (1) review workshop at the 90% complete phase. This workshop will be held at Owner's office to solicit comments and feedback from the Owner. Garver will also make a Final Design site visit with Owner, make any needed plan changes as a result of this site visit. Meeting Minutes will be prepared and distributed to all attendees following the workshop. Garver will incorporate final comments and design elements as agreed to by the Owner and Engineer. Final construction documents will be prepared as required to advertise for bids.

4.4 Design Coordination

Garver will work with Owner's staff throughout the design phase to develop an approach for utilizing existing WRF infrastructure for the pilot, while minimizing impact to the facility's normal operations. All pilot facilities will be designed for temporary construction and operation. The design of any permanent improvements to the Norman WRF are considered Extra Work. Proposed pilot trains and associated appurtenances will be designed to allow for their quick and efficient demobilization following completion of the Pilot Study. Installation and removal will be performed by third-party installers (contractor, equipment provider, and/or Owner's staff). Design documents will identify the responsible party for each component (Owner, Contractor, or Equipment supplier). Garver will also confirm the proposed process components are capable of being operated in-house by Owner's staff and confirm portions of construction that can be self-performed by the Owner's staff.

The Pilot Project will include some sole-sourced equipment with a commitment from their providers to partner in the project and provide an in-kind contribution in the form of reduced equipment cost and/or volunteered resources. Garver will coordinate with these equipment providers to confirm the resources being provided for the project and potential roles/responsibilities of the provider during the construction and operation of the pilot.

Garver will also attend two (2) coordination meetings with the ODEQ. Garver will prepare exhibits for these meetings when appropriate.

Garver will furnish plans and specifications developed for this project as requested for permitting procedures for ODEQ for review and comment. Garver will address one (1) round of comments and resubmit the drawings and specifications for further consideration by ODEQ.

4.5 Quality Assurance and Quality Control (QA/QC)

Each submittal will be reviewed internally prior to submission to the Owner for final review.

5.0 Bidding Services

Bidding services will include:

1. Prepare and submit Advertisement for Bids to newspaper(s) for publication as directed by the Owner. Owner will pay advertising costs outside of this contract.
2. Dispense construction contract documents to prospective bidders (at the approximate cost of reproduction and handling).
3. Support the contract documents by preparing addenda as appropriate.
4. Participate in a pre-bid meeting if necessary.
5. Attend the bid opening.

6. Prepare bid tabulation.
7. Evaluate bids and recommend award.
8. Prepare construction contracts.

Prequalification of contractors is not included in this scope of services and is considered Extra Work.

6.0 Pilot Coordination

Garver will manage project teams and keep the Owner updated regarding the progress of the pilot. To assist with pilot optimization and maximum use of resources, it is anticipated the pilot will operate in phases with a total duration of up to 15 months.

6.1 Pilot Operations and Communications Plan

Prior to initiation of pilot construction and operation, Garver will prepare an update to the previously drafted Pilot Operations and Communications Plan (POC Plan), outlined within the Phase 3 Plan. The updated POC Plan will define roles and responsibilities for all key members of the pilot team, including contractors, equipment providers, Garver, and Owner's personnel, as well as set a schedule for the Pilot Project. As the project manager, Garver will coordinate protocol and responsibilities for the following teams:

1) Construction Team
2) Operations Team
3) Sampling/Monitoring Team
4) Equipment Providers

Garver, working with Owner, will also develop operational protocols for start-up, phasing, normal operation, and emergency shut-down of pilot treatment processes individually or as a treatment train.

6.2 Pilot Construction Administration

During the construction phase of the pilot, Garver will utilize the POC Plan and provide the following:

1) Issue a Notice to Proceed letter to the Contractor and attend preconstruction meeting.
2) Attend progress/coordination meetings with the Owner/Contractor.
3) Evaluate and respond to construction material submittals and shop drawings. Corrections or comments made by Garver on the shop drawings during this review will not relieve Contractor from compliance with requirements of the drawings and specifications. The check will only be for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor will be responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating his work with that of all other trades, and performing his work in a safe and satisfactory manner. Garver's review shall not constitute approval of safety precautions or constitute approval of construction means, methods, techniques, sequences, procedures, or assembly of various components. When certification of performance characteristics of materials, systems or equipment is required by the Contract Documents, either directly or implied for a complete and workable system, Garver shall be entitled to rely upon such submittal or implied certification to establish that the materials, systems or equipment will meet the performance criteria required by the Contract Documents.
4) Issue instructions to the Contractor on behalf of the Owner and issue necessary clarifications (respond to RFIs) regarding the construction contract documents.
5) Review the Contractor's progress payment requests based on the actual quantities of contract items completed and accepted, and will make a recommendation to the Owner regarding payment. Garver's recommendation for payment shall not be a representation that Garver has made exhaustive or continuous inspections to (1) check the quality or exact quantities of the Work; (2) to review billings from Subcontractors and material suppliers to substantiate the Contractor's right to payment; or (3) to ascertain how the Contractor has used money previously paid to the Contractor.
6) Provide part-time resident construction observation services for the 120 calendar-day construction contract performance time. The proposed fee is based on approximately eight (8) hours per week, during the 120-calendar-day construction contract performance time. If the construction time extends beyond the time established in this AGREEMENT or if the Owner wishes to increase the time or frequency of the observation, the Owner will pay Garver an additional fee agreed to by the Owner and Garver.
7) When authorized by the Owner, prepare change orders for changes in the work from that originally provided for in the construction contract documents. If redesign or substantial engineering or surveying is required in the preparation of these change order documents, the Owner will pay Garver an additional fee to be agreed upon by the Owner and Garver.
8) Participate in final project inspection, prepare punch list, review final project closing documents, and submit final pay request

6.3 Sampling Plan

Garver will update the Sampling Plan provided in the Phase 3 Plan. The Sampling Plan will include locations within each pilot process train for sample collection. In addition, the Sampling Plan will include measures for QA/QC, including protocols for sample chain-of-custody. This Sampling Plan will also be updated after ODEQ review and comments (ongoing). The Owner is responsible for all expenses associated with the collection and analysis of all samples for the pilot.

Garver, working with the Owner, will identify sample analyses, as defined in the Sampling Plan, which can be performed at the Owner's existing laboratories. Testing that will require additional resources will be contracted to a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory. Garver will request pricing from up to three (3) laboratories for all EPA-approved analytical methods required for the Study. Garver will summarize recommendations for the selected laboratory(s) for this Study in a technical memorandum (TM) to the Owner. This TM will also identify and document any laboratory-specific requirements for sample collection and transport (for analysis). All expenses associated with sample analyses, including any shipping fees, will be paid for by the Owner.

7.0 On-Site Support

7.1 Delivery and Installation Assistance

Garver will coordinate with the third-party installers on the delivery and installation of the pilot units, assist with start-up of process pilot units and assist with the coordination of demobilization of the pilot units and associated equipment.

7.2 Operations Support

Garver will coordinate discussions with Owner's staff and the pilot equipment providers to maintain operation of pilot processes and adjustment of pilot components. A simple pilot SOP manual will be developed to assist with on-site operations.

Following start-up of the pilot, at least one (1) Garver employee will check on the pilot an average of one (1) day per week for the duration of the pilot. If the pilot duration is extended beyond 15 months, Garver will continue to assist the Owner as directed for an additional fee agreed to by Garver and the Owner. The Owner will be responsible for the day to day operation of the pilot.

The pilot units will include a PLC/SCADA interface to facilitate collection, storage, and reporting of pilot performance data. Garver will assist with integration of SCADA and one (1) application engineer will review the system quarterly (up to (5) total site visits over 15 months) during operation of the pilot. SCADA support in addition to this effort for the pilot or the existing WRF processes will be considered extra work.

7.3 Monitoring Assistance

Garver will assist with the development of pilot process performance logs for Owner's staff to record collected data. In addition, Garver will develop a template for the Owner to compile the data received from off-site laboratory analyses in a readily-searchable and readily-accessible electronic-file format (.xls).

Up to two (2) times per month, Garver will coordinate and participate in pilot progress meetings with key project team members assigned to the pilot. Pilot duration is anticipated to be up to 15 months. These meetings will review process performance trends and any pilot process upsets; meeting minutes will document action items and responsible parties, along with recommendations to modify pilot process operations, if any.

8.0 Pilot Reporting

8.1 Pilot Results Report

Garver will tabulate results and compile quality assurance documentation in a Pilot Results Report to the Owner. Summary tables will be organized by sample site, extent of treatment, and chronological order. In addition, the Report will summarize sample collection procedures, document any discrepancies/deviations between anticipated and actual results, and describe the laboratory methods utilized.

The Pilot Results Report will assess the pilot's ability to meet goals and objectives established in the Phase 3 Plan. Comparison will be developed using literature review, CEC tracking results, and IPR regulations set forth by ODEQ. These results will be utilized to develop an updated OPCC and to estimate 20-year life-cycle costs for full-scale treatment facilities. The OPCC at this level of design can be estimated between -20% to +30% and are intended to be utilized for cost budgeting and control.

A Draft Pilot Results Report will be submitted for Owner review. Garver will hold a Pilot Results Workshop to discuss the results of the Draft Report and collect comments. With Owner comments incorporated, a Revised Pilot Results Report will be submitted

for ODEQ review. The Final Pilot Results Report will incorporate ODEQ comments. This scope of services includes the incorporation of one (1) round of acceptable ODEQ comments.

In addition to the Pilot Results Report, Garver will assist the Owner with final reporting to Federal Funding Agency, as required for award of federal grant money.

9.0 Stakeholder Coordination and Public Outreach

For the purposes of informing stakeholders on the progress of the pilot, Garver will attend up to eight (8) stakeholder meetings which may include attendance at governing body public meetings for the Owner, ODEQ, Central Oklahoma Master Conservancy District (COMCD), or COMCD Member Cities. Additionally, Garver will assist the Owner with and participate in up to two (2) public outreach meetings for the purposes of sharing the pilot concepts and performance, educate public meeting attendees on the importance of reuse, as well as the precautions/safety measures that would be taken prior to full-scale implementation.

10.0 Total Mass Daily Loading Study

Following completion of the pilot and prior to completion of the permanent IPR Facility it is anticipated that a total mass daily loading study on Lake Thunderbird may be required. This study has not been included in this scope of work, but can be added by amendment.

11.0 Engineering Report for IPR Facility

Following completion of the pilot and prior to completion of the permanent IPR Facility, it is anticipated that an Engineering Report will be required for ODEQ approval to move forward with final design and construction. The Engineering Report has not been included in this scope of work, but can be added by amendment..

12.0 Design Phase Services of the IPR Facility

Prior to completion of the permanent IPR Facility, design phase services of the permanent IPR Facility are anticipated but have not been included in this scope of work; this work can be added by amendment.

13.0 Construction Phase f Design of the IPR Facility

Prior to completion of the permanent IPR Facility,construction phase services (construction administration and observation and startup services) of the permanent IPR Facility are anticipated but have not been included in this scope of work; this work can be added by amendment.

14.0 Deliverables

The tables below summarize meeting and workshops and deliverables included with this scope of services.

14.1 Meetings/Specialty Workshops

Meeting and workshops will facilitate coordination of design, regulatory review, stakeholder updates, public outreach, and pilot performance. The table below summarizes the meetings and workshops included with this scope of services. At least one (1) Garver employee will attend each of the listed meetings/workshops.

Phase	Name/Type	Participants
Pilot Protocol Coordination	Bi-weekly conference calls	Garver, ODEQ
	ODEQ Coordination Meetings – Up to four (4) meetings	Garver, ODEQ, Owner
Feasibility Study	Draft Feasibility Study Workshop	Garver, Owner, ODEQ
Design	Pilot Kickoff	Garver, Owner
	Preliminary Design Workshop	
	Final Design Workshop	
	ODEQ Coordination Meetings – (Up to two (2) Meetings)	Garver, Owner, ODEQ
Bidding	Pre-Bid Meeting	Garver, Owner, prospective contractors
Construction	Pre-Construction Meeting	Garver, Owner, Contractor, Pilot Equipment Suppliers
Pilot Operation	Pilot Progress Meetings - Two (2) per Month	Garver, Owner, Pilot Equipment Suppliers

Phase	Name/Type	Participants
All project phases	Stakeholder Meetings – Up to four (4) Events	Garver, Owner, COMCD, Member Cities, ODEQ
	Public Education/ Outreach – Up to two (2) Events	Garver, Owner, Public
Post-Pilot Operation	Pilot Performance Workshop	Garver, Owner

14.2 Deliverables

The following table summarizes the deliverables to be provided with the above described scope of work. All deliverables will be provided as hard copies; electronic deliverables will be provided to Owner as needed.

Phase	Deliverable	Quantity
Pilot Protocol	ODEQ Submittal Package	2
Feasibility Study Report	Draft Feasibility Study Report	3
	Final Feasibility Study Report	3
	Final Feasibility Study Report to ODEQ	3
Design	Preliminary Design Package	3
	Final Design Package	3
	ODEQ Submittal Package	3
	Sample Plan/Protocol	3
	Lab Testing TM	3
Bidding	Bid Documents	2
	Addenda	2
Construction	Construction Documents	3
	Operations and Communications Plan	3
Pilot Operation	Lab Analysis (in-house and NELAP list	3
	Bi-weekly Pilot Data	5 (per meeting)
	Bi-weekly Meeting minutes	5 (per meeting)
Post-Piloting	Draft Pilot Results Report	3
	Revised Pilot Results Report (ODEQ Submittal)	3
	Final Pilot Summary Report	3
Grant Funding Report	Pilot Project Summary Report	As Required by Agency

15.0 Extra Work

The following items are not included under this AGREEMENT but will be considered as extra work payable under special services, if needed:

1. Submittals or deliverables in addition to those listed herein.
2. Presentations, meetings, or workshops in addition to those listed herein.
3. Design or treatment evaluations of the existing water reclamation facility processes.
4. Operation of the pilot or the existing water reclamation facility.
5. Grant assistance in addition to that listed herein.
6. Pre-qualification of contractors.
7. Pilot construction phase services including administration and observation in addition to those listed herein.

8. Pilot assistance for a duration exceeding the duration noted herein.
9. Preparation of an ODEQ Engineering Report.
10. SCADA services in addition to those listed herein.
11. Sampling plans and data analysis for any wastewater treatment facilities in addition to those listed herein.
12. Geotechnical investigations.
13. Environmental services.
14. Site survey services.
15. Installation or removal of any temporary construction (i.e., unit processes, piping, or facilities) associated with the planned pilot testing.
16. Updating the Lake Thunderbird TMDL for receiving an IPR discharge.
17. Lake Thunderbird Water Quality Monitoring

Extra Work will be as directed by the Owner in writing for an additional fee as agreed upon by the Owner and Garver.

ATTACHMENT C

COMPENSATION

The OWNER will compensate ENGINEER on a lump sum basis for the following SERVICES rendered. The lump sum fee is broken down below by task as defined in the Scope of Services:

Task Description	Total	Less Garver In-Kind
DETAILED DESIGN & CONSTRUCTION		
Activity 1 – Federal Grant Assistance	$ 6,200.00	
Activity 2 – Feasibility Study Report	$37,150.00	$10,000.00
Activity 3 – IPR Pilot Design	$153,500.00	
Activity 4 – Bidding Services	$36,700.00	
Activity 5 – Pilot Protocol	$65,000.00	$65,000.00
Activity 6 – Operations Support	$178,800.00	
Activity 7 – Pilot Reporting	$96,700.00	
Activity 8 – Outreach and Stakeholder Coordination	$34,200.00	
Subtotals	$608,250.00	$75,000.00
Contract Total	**$533,250.00**	

The ENGINEER may submit interim statements, not to exceed one per month, for partial payment for SERVICES rendered. The statements to OWNER will be by task for the percentage of work actually completed. The OWNER shall make interim payments within 30 calendar days in response to ENGINEER's interim statements.

No budgetary allowance has been established for Additional Services. Additional services must be authorized by amendment of the AGREEMENT. Time and materials billing for ENGINEER'S labor will be at his standard hourly rates. ENGINEER's direct expenses, including subcontractor expenses, will include a multiplier of 1.10.