

THE STATE OF TEXAS §

COUNTY OF COLLIN §

**Professional Services Contract**  
**with Freese and Nichols, Inc.**

THIS CONTRACT is entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between the **CITY OF MCKINNEY, TEXAS**, a municipal corporation located in Collin County, Texas, (hereinafter referred to as "CITY"), acting by and through its City Manager or his designee, and **FREESE AND NICHOLS, INC.** ("hereinafter referred to as "CONSULTANT") whose address is 2711 N. Haskell Ave. Ste. 3300, Dallas, Texas 75204.

WITNESSETH:

WHEREAS, CITY desires to obtain professional services from CONSULTANT for Phases 2 and 3 of Water System Evaluation for Nitrification Effects; and

WHEREAS, CONSULTANT is an architectural, engineering, professional planning, urban design, or landscape architecture firm qualified to provide such services and is willing to undertake the performance of such services for CITY in exchange for fees hereinafter specified; NOW, THEREFORE,

THAT IN CONSIDERATION of the covenants and agreements hereinafter contained and subject to the terms and conditions hereinafter stated, the parties hereto do mutually agree as follows:

I.

**Employment of Consultant**

CONSULTANT will perform as an independent contractor all services under this Contract to the prevailing professional standards consistent with the level of care and skill ordinarily exercised by members of the architectural, engineering and planning professions, both public and private, currently practicing in the same locality under similar conditions including but not limited to the exercise of reasonable, informed judgments and prompt, timely action. If CONSULTANT is representing that it has special expertise in one or more areas to be utilized in this Contract, then CONSULTANT agrees to perform those special expertise services to the appropriate local, regional and national professional standards.

**II.**  
**Scope of Services**

CONSULTANT shall perform such services as are necessary to perform a nitrification study specifically including, but not necessarily limited to, the tasks enumerated more fully in Attachment "A" hereto entitled "Scope of Work" (hereafter referred to as the "Project"). Attachment "A" is hereby incorporated herein by reference and made a part hereof as if written word for word. However, in case of conflict in the language of Attachment "A" and this Contract, the terms and conditions of this Contract shall be final and binding upon both parties hereto.

**III.**  
**Payment for Services**

Total payment for services described herein shall be a sum not to exceed Ninety-Two Thousand Two Hundred and No/100 Dollars (\$92,200). This total payment for services includes CONSULTANT's ordinary expenses. Additional expenses, which are extraordinary in nature, shall be approved in advance by CITY in writing signed by the parties. Such extraordinary expenses may be paid as incurred and billed to the CITY pursuant to this Contract over and above the total payment amount identified in this provision. Any extraordinary expenses not approved in writing in advance by the CITY shall remain the sole responsibility of the CONSULTANT.

CONSULTANT will bill CITY on a percent complete basis in accordance with Attachment "B"; provided however that this Contract shall control in the event of any conflict between the language in Attachment "B" and the language in this Contract. If additional services, trips or expenses are requested, CONSULTANT will not provide such additional services until authorized by CITY in writing to proceed. The scope of services shall be strictly limited. CITY shall not be required to pay any amount in excess of the amount identified in the preceding paragraph unless CITY shall have approved in writing in advance (prior to the performance of additional work) the payment of additional amounts.

Each month CONSULTANT will submit to CITY an invoice supporting the percentage complete for which payment is sought. Each invoice shall also state the percentage of work completed on the Project through the end of the then submitted billing period, the total of the current invoice amount and a running total balance for the Project to date.

Within thirty (30) days of receipt of each such monthly invoice CITY shall make monthly payments in the amount shown by CONSULTANT's approved monthly statements and other documentation submitted.

Nothing contained in this Contract shall require CITY to pay for any work that is unsatisfactory as determined by CITY or which is not submitted in compliance with the terms of this Contract, nor shall failure to withhold payment pursuant to the provisions of this section constitute a waiver of any right, at law or in equity, which CITY may have if CONSULTANT is in default, including the right to bring legal action for damages or for specific performance of this Contract. Waiver of any default under this Contract shall not be deemed a waiver of any subsequent default.

**IV.**  
**Revisions of the Scope of Services**

CITY reserves the right to revise or expand the scope of services after due approval by CITY as CITY may deem necessary, but in such event CITY shall pay CONSULTANT equitable compensation for such services. In any event, when CONSULTANT is directed to revise or expand the scope of services under this Section of the Contract, CONSULTANT shall provide CITY a written proposal for the entire costs involved in performing such additional services. Prior to CONSULTANT undertaking any revised or expanded services as directed by CITY under this Contract, CITY must authorize in writing the nature and scope of the services and accept the method and amount of compensation and the time involved in all phases of the Project.

It is expressly understood and agreed by CONSULTANT that any compensation not specified in Paragraph III herein above may require McKinney City Council approval and is subject to the current budget year limitations.

**V.**  
**Term**

This Contract shall begin on the date first written above, and shall terminate when CITY has approved the Project as being final or otherwise terminates this Contract as provided herein.

**VI.**  
**Contract Termination Provision**

This Contract may be terminated at any time by CITY for any cause by providing CONSULTANT thirty (30) days written notice of such termination. Upon receipt of such notice, CONSULTANT shall immediately terminate working on, placing orders or entering into contracts for supplies, assistance, facilities or materials in connection with this Contract and shall proceed to promptly cancel all existing contracts insofar as they are related to this Contract.

**VII.**  
**Ownership of Documents**

All materials and documents prepared or assembled by CONSULTANT under this Contract shall become the sole property of CITY and shall be delivered to CITY without restriction on future use. CONSULTANT may retain in its files copies of all drawings, specifications and all other pertinent information for the work. CONSULTANT shall have no liability for changes made to any materials or other documents by others subsequent to the completion of the Contract.

**VIII.**  
**Insurance Requirements**

- A. Before commencing work, the consultant shall, at its own expense, procure, pay for and maintain during the term of this Contract the following insurance written by companies approved by the state of Texas and acceptable to the City of McKinney. The consultant shall furnish to the City of McKinney Purchasing Manager certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Certificates shall reference the project/contract number and be addressed as follows:

City of McKinney  
c/o Periculum Services Group  
Department 72  
PO Box 257  
Portland, MI 48875-0257

1. Commercial General Liability insurance, including, but not limited to Premises/Operations, Personal & Advertising Injury, Products/Completed Operations, Independent Contractors and Contractual Liability, with minimum combined single limits of \$1,000,000 per-occurrence, \$1,000,000 Products/Completed Operations Aggregate and \$1,000,000 general aggregate. Coverage must be written on an occurrence form. The General Aggregate shall apply on a per project basis.
2. Workers' Compensation insurance with statutory limits; and Employers' Liability coverage with minimum limits for bodily injury: a) by accident, \$100,000 each accident, b) by disease, \$100,000 per employee with a per policy aggregate of \$500,000.
3. Business Automobile Liability insurance covering owned, hired and non-owned vehicles, with a minimum combined bodily injury and property damage limit of \$1,000,000 per occurrence.

4. Professional Liability Insurance to provide coverage against any claim which the consultant and all consultants engaged or employed by the consultant become legally obligated to pay as damages arising out of the performance of professional services caused by error, omission or negligent act with minimum limits of \$2,000,000 per claim, \$2,000,000 annual aggregate.

**NOTE:** If the insurance is written on a claims-made form, coverage shall be continuous (by renewal or extended reporting period) for not less than *thirty-six (36) months* following completion of the contract and acceptance by the City of McKinney.

- B. With reference to the foregoing required insurance, the consultant shall endorse applicable insurance policies as follows:
  1. A waiver of subrogation in favor of City of McKinney, its officials, employees, and officers shall be contained in the Workers' Compensation insurance policy.
  2. The City of McKinney, its officials, employees and officers shall be named as additional insureds on the Commercial General Liability policy, by using endorsement CG2026 or broader.
  - 3.. All insurance policies shall be endorsed to the effect that City of McKinney will receive at least thirty (30) days notice prior to cancellation, non-renewal, termination, or material change of the policies.
- C. All insurance shall be purchased from an insurance company that meets a financial rating of B+VI or better as assigned by A.M. Best Company or equivalent.

## **IX.**

### **Right to Inspect Records**

CONSULTANT agrees that CITY shall have access to and the right to examine any directly pertinent books, documents, papers and records of CONSULTANT involving transactions relating to this Contract. CONSULTANT agrees that CITY shall have access during normal working hours to all necessary CONSULTANT facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. CITY shall give CONSULTANT reasonable advance notice of intended audits.

CONSULTANT further agrees to include in subcontract(s), if any, a provision that any subcontractor or engineer agrees that CITY shall have access

to and the right to examine any directly pertinent books, documents, papers and records of such engineer or sub-contractor involving transactions to the subcontract, and further, that CITY shall have access during normal working hours to all such engineer or sub-contractor facilities and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of the paragraph. CITY shall give any such engineer or sub-contractor reasonable advance notice of intended audits.

**X.**

**Successors and Assigns**

CITY and CONSULTANT each bind themselves and their successors, executors, administrators and assigns to the other party to this contract and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this Contract. Neither CITY nor CONSULTANT shall assign or transfer its interest herein without the prior written consent of the other.

**XI.**

**CONSULTANT's Liability**

Acceptance of the final plans by the CITY shall not constitute nor be deemed a release of the responsibility and liability of CONSULTANT, its employees, associates, agents or consultants for the accuracy and competency of their designs, working drawings, specifications or other documents and work; nor shall such acceptance be deemed an assumption of responsibility by CITY for any defect in the designs, working drawings, specifications or other documents and work; nor shall such acceptance be deemed an assumption of responsibility by CITY for any defect in the designs, working drawings, specifications or other documents and work prepared by said CONSULTANT, its employees, associates, agents or sub-consultants.

**XII.**

**INDEMNIFICATION**

**CONSULTANT DOES HEREBY COVENANT AND CONTRACT TO WAIVE ANY AND ALL CLAIMS, RELEASE, DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY, ITS CITY COUNCIL, OFFICERS, EMPLOYEES, AND AGENTS, IN BOTH THEIR PUBLIC AND PRIVATE CAPACITIES, FROM AND AGAINST ALL LIABILITY, CAUSES OF ACTION, CITATIONS, CLAIMS, COSTS, DAMAGES, DEMANDS, EXPENSES, FINES, JUDGMENTS, LOSSES, PENALTIES OR SUITS, WHICH IN ANY WAY ARISE OUT OF, RELATE TO, OR RESULT FROM CONSULTANT'S PERFORMANCE UNDER THIS CONTRACT OR WHICH ARE CAUSED BY THE INTENTIONAL WRONGFUL ACTS OR NEGLIGENT ACTS OR OMISSIONS OF CONSULTANT, ITS SUBCONTRACTORS, ANY OFFICERS, AGENTS OR EMPLOYEES OF EITHER**

**CONSULTANT OR ITS SUBCONTRACTORS, AND ANY OTHER THIRD PARTIES FOR WHOM OR WHICH CONSULTANT IS LEGALLY RESPONSIBLE (THE "INDEMNIFIED ITEMS") SUBJECT TO THE LIMITATIONS IN TEXAS LOCAL GOVERNMENT CODE § 271.904 (A) AND TEXAS CIVIL PRACTICE AND REMEDIES CODE, § 130.002 (B).**

**BY WAY OF EXAMPLE, THE INDEMNIFIED ITEMS MAY INCLUDE PERSONAL INJURY AND DEATH CLAIMS AND PROPERTY DAMAGE CLAIMS, INCLUDING THOSE FOR LOSS OF USE OF PROPERTY.**

**INDEMNIFIED ITEMS SHALL INCLUDE ATTORNEYS' FEES AND COSTS, COURT COSTS, AND SETTLEMENT COSTS. INDEMNIFIED ITEMS SHALL ALSO INCLUDE ANY EXPENSES, INCLUDING ATTORNEYS' FEES AND EXPENSES, INCURRED BY AN INDEMNIFIED INDIVIDUAL OR ENTITY IN ATTEMPTING TO ENFORCE THIS INDEMNITY.**

In its sole discretion, the CITY shall have the right to approve counsel to be retained by CONSULTANT in fulfilling its obligation to defend and indemnify the CITY. CONSULTANT shall retain approved counsel for the CITY within seven (7) business days after receiving written notice from the CITY that it is invoking its right to indemnification under this Contract. If CONSULTANT does not retain counsel for the CITY within the required time, then the CITY shall have the right to retain counsel and the CONSULTANT shall pay these attorneys' fees and expenses. The CITY retains the right to provide and pay for any or all costs of defending indemnified items, but it shall not be required to do so.

### **XIII.**

#### **Independent Contractor**

CONSULTANT's status shall be that of an Independent Contractor and not an agent, servant, employee or representative of CITY in the performance of this Contract. No term or provision of or act of CONSULTANT or CITY under this Contract shall be construed as changing that status. CONSULTANT will have exclusive control of and the exclusive right to control the details of the work performed hereunder, and shall be liable for the acts and omissions of its officers, agents, employees, contractors, subcontractors and engineers and the doctrine of respondeat superior shall not apply as between CITY and CONSULTANT, its officers, agents, employees, contractors, subcontractors and engineers, and nothing herein shall be construed as creating a partnership or joint enterprise between CITY and CONSULTANT.

**XIV.**  
**Default**

If at any time during the term of this Contract, CONSULTANT shall fail to commence the work in accordance with the provisions of this Contract or fail to diligently provide services in an efficient, timely and careful manner and in strict accordance with the provisions of this Contract or fail to use an adequate number or quality of personnel to complete the work or fail to perform any of its obligations under this Contract, then CITY shall have the right, if CONSULTANT shall not cure any such default after thirty (30) days written notice thereof, to terminate this Contract. Any such act by CITY shall not be deemed a waiver of any other right or remedy of CITY. If after exercising any such remedy due to CONSULTANT's nonperformance under this Contract, the cost to CITY to complete the work to be performed under this Contract is in excess of that part of the Contract sum which has not theretofore been paid to CONSULTANT hereunder, CONSULTANT shall be liable for and shall reimburse CITY for such excess. CONSULTANT'S liability under this provision shall be limited to the total dollar amount of this Contract.

CITY's remedies for CONSULTANT's default or breach under this Contract shall be limited to one or more of the following remedies which may be exercised separately or in combination at CITY's sole exclusive choice:

- (a) Specific performance of the Contract;
- (b) Re-performance of this Contract at no extra charge to CITY; or,
- (c) Monetary damages in an amount not to exceed the greater of:
  - (1) The amount of any applicable insurance coverage CONSULTANT is required to purchase and maintain under this Contract plus any deductible amount to be paid by CONSULTANT in conjunction with said coverage regardless of whether CONSULTANT has actually purchased and maintained said coverage; or,
  - (2) The total dollar amount of this Contract.

The terms of Sections XII entitled Indemnification, and XVII entitled Confidential Information shall survive termination of this Contract.



**XV.**  
**Changes**

CITY may, from time to time, require changes in the scope of services to be performed under this Contract. Such changes as are mutually agreed upon by and between CITY and CONSULTANT shall be incorporated by written modification to this Contract.

**XVI.**  
**Conflict of Interest**

CONSULTANT covenants and agrees that CONSULTANT and its associates and employees will have no interest, and will acquire no interest, either direct or indirect, which will conflict in any manner with the performance of the services called for under this Contract. All activities, investigations and other efforts made by CONSULTANT pursuant to this Contract will be conducted by employees, associates or subcontractors of CONSULTANT.

**XVII.**  
**Confidential Information**

CONSULTANT hereby acknowledges and agrees that its representatives may have access to or otherwise receive information during the furtherance of its obligations in accordance with this Contract, which is of a confidential, non-public or proprietary nature. CONSULTANT shall treat any such information received in full confidence and will not disclose or appropriate such Confidential Information for its own use or the use of any third party at any time during or subsequent to this Contract. As used herein, "Confidential Information" means all oral and written information concerning City of McKinney, its affiliates and subsidiaries, and all oral and written information concerning CITY or its activities, that is of a non-public, proprietary or confidential nature including, without limitation, information pertaining to customer lists, services, methods, processes and operating procedures, together with all analyses, compilation, studies or other documents, whether prepared by CONSULTANT or others, which contain or otherwise reflect such information. The term "Confidential Information" shall not include such materials that are or become generally available to the public other than as a result of disclosure of CONSULTANT, or are required to be disclosed by a governmental authority.

**XVIII.**  
**Mailing Address**

All notices and communications under this CONTRACT to be mailed to CITY shall be sent to the address of CITY's agent as follows, unless and until CONSULTANT is otherwise notified:

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City of McKinney  
Post Office Box 517  
McKinney, Texas 75069.

Notices and communications to be mailed or delivered to CONSULTANT shall be sent to the address of CONSULTANT as follows, unless and until CITY is otherwise notified:

Scott Cole, P.E.  
4055 International Plaza, Ste. 200  
Fort Worth, TX 76109  
(817) 735-7255

Any notices and communications required to be given in writing by one party to the other shall be considered as having been given to the addressee on the date the notice or communication is posted, faxed or personally delivered by the sending party.

**XIX.**  
**Applicable Law**

The CONTRACT is entered into subject to the McKinney City Charter and ordinances of CITY, as same may be amended from time to time, and is subject to and is to be construed, governed and enforced under all applicable State of Texas and federal laws. CONSULTANT will make any and all reports required per federal, state or local law including, but not limited to, proper reporting to the Internal Revenue Service, as required in accordance with CONSULTANT's income. Situs of this Contract is agreed to be Collin County, Texas, for all purposes, including performance and execution.

**XX.**  
**Severability**

If any of the terms, provisions, covenants, conditions or any other part of this Contract are for any reason held to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants, conditions or any other part of

this Contract shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

**XXI.**  
**Remedies**

No right or remedy granted herein or reserved to the parties is exclusive of any other right or remedy herein by law or equity provided or permitted; but each shall be cumulative of every other right or remedy given hereunder. No covenant or condition of this Contract may be waived without written consent of the parties. Forbearance or indulgence by either party shall not constitute a waiver of any covenant or condition to be performed pursuant to this Contract.

**XXII.**  
**Entire Agreement**

This Contract embodies the complete agreement of the parties hereto, superseding all oral or written previous and contemporaneous agreements between the parties relating to matters herein, and except as otherwise provided herein cannot be modified without written agreement of the parties.

**XXIII.**  
**Non-Waiver**

It is further agreed that one (1) or more instances of forbearance by CITY in the exercise of its rights herein shall in no way constitute a waiver thereof.

**XXIV.**  
**Headings**

The headings of this Contract are for the convenience of reference only and shall not affect any of the terms and conditions hereof in any manner.

**XXV.**  
**Venue**

The parties to this Contract agree and covenant that this Contract will be enforceable in McKinney, Texas; and that if legal action is necessary to enforce this Contract, exclusive venue will lie in Collin County, Texas.

**XXVI.**  
**No Third Party Beneficiary**

For purposes of this Contract, including its intended operation and effect, the parties (CITY and CONSULTANT) specifically agree and contract that: (1) the Contract only affects matters/disputes between the parties to this Contract,

and is in no way intended by the parties to benefit or otherwise affect any third person or entity notwithstanding the fact that such third person or entity may be in contractual relationship with CITY or CONSULTANT or both; and (2) the terms of this Contract are not intended to release, either by contract or operation of law, any third person or entity from obligations owing by them to either CITY or CONSULTANT.

IN WITNESS WHEREOF, the parties hereto have set their hands by their representatives duly authorized on the day and year first written above.

**CITY OF MCKINNEY**

By: \_\_\_\_\_  
TOM MUEHLENBECK  
Interim City Manager

Date Signed: \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
SANDY HART, TRMC, MMC  
City Secretary  
DENISE VICE, TRMC  
Assistant City Secretary

APPROVED AS TO FORM:

\_\_\_\_\_  
MARK S. HOUSER  
City Attorney



THE STATE OF TEXAS       §  
COUNTY OF COLLIN       §

BEFORE ME, the undersigned authority, in and for said County, Texas, on this day personally appeared TOM MUEHLENBECK, Interim City Manager of the **CITY OF MCKINNEY**, a Texas Municipal Corporation, known to me to be the person who's name is subscribed to the foregoing instrument, and acknowledged to me that he has executed the same on the City's behalf.

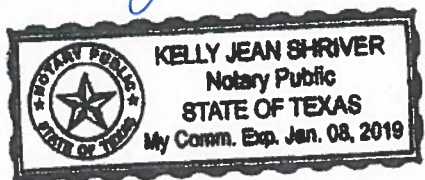
GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public Collin County, Texas  
My commission expires \_\_\_\_\_

THE STATE OF TEXAS       §  
COUNTY OF TARRANT       §

This instrument was acknowledged before me on the 8th day of June, 2016, by Scott Cole in his capacity as Vice President of Freese and Nichols, Inc., a Texas Corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he executed the same on behalf of and as the act of Freese and Nichols, Inc..

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 8th DAY OF June, 2016.



Kelly Jean Shriver  
Notary Public TARRANT County, Texas  
My commission expires 01/08/19

**Attachment "A"**

*Scope of Work*

ATTACHMENT "A"  
SCOPE OF SERVICES

TO BE PROVIDED BY **Freese and Nichols, Inc.**  
TO  
CITY OF MCKINNEY  
FOR

**Phases 2 and 3 of the Water System Evaluation for Nitrifications Effects**

**A. PROJECT DESCRIPTION**

Freese and Nichols, Inc. (FNI) understands that the City of McKinney is seeking engineering services for a water system evaluation study for nitrifications effects. The intent of the study is to evaluate the existing potable water distribution system for nitrification issues. Phase 1 was completed in 2015 under a separate contract and involved development and implementation of a focused sampling plan. Phase 2 includes development of water quality enhancement alternatives, and Phase 3 includes peer review and recommendations regarding a Nitrification Action Plan that the City developed in-house. The Action Plan will identify a proposed sampling plan and recommended strategies to mitigate nitrification issues in the distribution system. Training on the Action Plan will be provided to City of McKinney staff. Services by the CONSULTANT shall include all aspects of the work set forth in the following scope of services.

**B. TASK DESCRIPTIONS – SCOPE OF SERVICES**

**Phase 2: Water Quality Enhancement Alternatives**

- B1. Water Model Update: FNI will update hourly diurnal demand curves based on the City's recent SCADA data for summer and winter conditions. FNI will update the water demand allocation in the model by geocoding recent meter billing data from the City including meter class (residential, commercial, etc.), consumption, and physical address for each individual meter in the City's billing system. FNI will conduct temporary pressure testing at up to sixteen (16) locations for model validation needs. Pressure testing will consist of a two-week time period. FNI will provide the pressure recorders and City staff will install the pressure recorders on selected fire hydrants. FNI will conduct an extended period simulation (EPS) validation by matching modeled flows, levels, and pressures to recorded data.
- B2. Develop Water System Operations Modifications: FNI will analyze the pumping and storage operations to determine if enhancements can be made to mitigate water age, and more specifically, water quality issues. FNI will utilize the water model to determine if changing the operational range of the water levels in the elevated and ground storage tanks has a positive impact on water age and water quality. Additional operational strategies to improve water quality will be investigated including but not limited to seasonal modifications, pumping schemes, tank level management, and delivery point flow rate optimization. Specific attention will be paid to new facilities sized for buildout that may be initially oversized based on current demand conditions such as Trinity Falls.



- B3. Conduct Water Age Modeling: FNI will conduct water age modeling using the updated water model. Water age modeling will be performed for up to five (5) operational conditions. FNI will use water age model to evaluate the impact of operational modifications on water age in the distribution system. Large scale color mapping of water age will be developed.
- B4. Progress Meeting: FNI will meet with the City to discuss the results of the focused sampling plan, the hydraulic model update and the water age modeling. FNI will present the findings of the analyses and discuss the path forward for the remainder of the tasks in the water quality evaluation.
- B5. Tank Mixing System Evaluation: FNI will review historical water data, drawings, and as-built data to determine the feasibility of a tank mixing system in the elevated or ground storage tanks in the water system. FNI will make tank mixing system recommendations that provide the most benefit to the water quality in the City. FNI will identify any potential hydraulic issues associated with modifications related to tank mixing systems at storage tanks.
- B6. Uni-directional Flushing Recommendations: FNI will review and evaluate historical flushing data along with the customer complaints database to determine areas where focused unidirectional flushing (UDF) can be used to combat water quality, specifically nitrification, issues. FNI will make recommendations for unidirectional flushing pilot locations throughout the City to be included in the Nitrification Response Plan. This scope does not include development of a detailed UDF Program for the City.
- B7. Chemical Feed System Evaluation: FNI will perform a feasibility study to evaluate adding or modifying a chemical feed system (booster chlorination) at one or more of the City's pump station or storage tank sites including:
- Ideal location(s)
  - Potential dosage rates
  - Injection point location
  - Triggers for activating booster chlorination
  - Conceptual layout
- FNI will conduct site visits to up to three (3) of the City's pump stations to assist in the chemical feed evaluation.
- B8. Online Water Quality Monitoring: FNI will evaluate the benefit of installing monitors that continuously sample the water quality throughout the water system. Online water quality monitoring has the potential to provide the City with up-to-date water quality monitoring of the triggers in the Nitrification Action Plan.
- B9. Develop Water Quality Recommendations: FNI will review and evaluate the results of the above analyses to develop recommendations and operational modifications to maintain appropriate water quality. Recommended operational strategies will be summarized and documented. Planning level cost estimates with project prioritization and phasing will be developed for recommended capital improvements. Large-scale color mapping of recommended improvements will be developed.
- B10. Draft Technical Report: FNI will develop a Draft Technical Report summarizing the assumptions, approach, methodology, and findings of the Water Quality Evaluation. FNI will submit an electronic version (PDF) of the Draft Report for distribution to City staff for review.

- B11. Meet with City Staff: FNI will meet with the City to discuss the Draft Technical Report and solicit comments from City staff.
- B12. Final Technical Report: FNI will update the draft Technical Report based on comments received by City staff and prepare a final technical report. FNI will submit one (1) electronic PDF copy and ten (10) hardcopies of the final technical report to the City. The technical report will be presented in a way that it will be maintained as part of the system's monitoring plan to meet TCEQ requirements for a Nitrification Action Plan.

### **Phase 3: Nitrification Action Plan - Peer Review**

- C1. Review City's Nitrification Action Plan: FNI will review the Nitrification Action Plan (NAP) developed by City staff which may include the following:
- System-specific plan for monitoring free ammonia, monochloramine, total chlorine, and nitrification indicators (nitrite and nitrate).
  - Recommendations for locations of monitoring, frequency of monitoring, and protocol for conducting the sampling. The frequency will be specific to the City and will possibly vary if there are seasonal trends found during the evaluation of the historical data.
  - Triggers of the above sampling parameters where action must be taken to mitigate nitrification in the system.
  - Specific actions will be specific to the system and may include the following:
    - Operational modifications
    - Focused sampling
    - Short periods of "chlorine burn"
    - Unidirectional Flushing Program
    - Booster Chloramination
    - Tank Cleaning or Tank Mixing Systems
- FNI will make recommendations for revisions to the City's NAP based on the review. FNI will check the document for consistency with the guidelines provided by TCEQ.
- C2. Meet with City to Discuss Nitrification Action Plan: FNI will meet with the City to discuss the Nitrification action Plan. FNI will discuss locations for monitoring, triggers and corrective actions.
- C3. Train City Staff: FNI will conduct up to three (3) half-day training sessions with City staff on the recommended strategies for maintaining water quality. FNI will train the staff on the sampling protocol, the triggers, and the actions necessary when the triggers are exceeded.

### **I. Special Services**

1. Field surveying required for the preparation of designs and drawings.
2. GIS mapping services outside of the scope of this project or assistance with these services.

3. Providing services to investigate existing conditions or facilities, or to make measured drawings thereof, or to verify the accuracy of drawings or other information furnished by Owner.
4. Providing renderings, model, and mock-ups requested by the Owner.
5. Making revisions to drawings or other documents when such revisions are 1) not consistent with approvals or instructions previously given by Owner or 2) due to other causes not solely within the control of FNI.
6. Investigations involving consideration of operation, maintenance and overhead expenses, and the preparation of rate schedules, earnings and expense statements, feasibility studies, appraisals, evaluations, assessment schedules, and material audits or inventories required for certification of force account construction performed by Owner.
7. Preparing applications and supporting documents for government grants, loans, or planning advances and providing data for detailed applications.
8. Conducting pilot plant studies or tests.
9. Preparing data and reports for assistance to Owner in preparation for hearings before regulatory agencies, courts, arbitration panels or any mediator, giving testimony, personally or by deposition, and preparations therefore before any regulatory agency, court, arbitration panel or mediator.
10. Assisting Owner in the defense or prosecution of litigation in connection with or in addition to those services contemplated by this AGREEMENT. Such services, if any, shall be furnished by FNI on a fee basis negotiated by the respective parties outside of and in addition to this AGREEMENT.
11. Design, contract modifications, studies or analysis required to comply with local, State, Federal or other regulatory agencies that become effective after the date of this agreement.
12. Meetings in excess of the number of trips included in Article I for periodic site visits or coordination meetings.
13. Providing basic or additional services on an accelerated time schedule. The scope of this service include cost for overtime wages of employees and consultants, inefficiencies in work sequence and plotting or reproduction costs directly attributable to an accelerated time schedule directed by the Owner.
14. Preparing statements for invoicing or other documentation for billing other than for the standard invoice for services attached to this professional services agreement

**Attachment "B"**

**COMPENSATION**

Compensation to FNI for Basic Services in Attachment A shall be computed on the basis of the Schedule of Charges, but shall not exceed Ninety-Two Thousand Two Hundred and No/100 Dollars (\$92,200). If FNI sees the Scope of Services changing so that Additional Services are needed, including but not limited to those services described as Additional Services in Attachment A, FNI will notify CITY for CITY's approval before proceeding. Additional Services shall be computed based on the Schedule of Charges.

**Schedule of Charges:**

<b><u>Position</u></b>	<b><u>Rate</u></b>
Professional - 1	113
Professional - 2	137
Professional - 3	156
Professional - 4	178
Professional - 5	209
Professional - 6	240
Construction Manager - 1	91
Construction Manager - 2	117
Construction Manager - 3	138
Construction Manager - 4	173
CAD Technician/Designer - 1	96
CAD Technician/Designer - 2	126
CAD Technician/Designer - 3	153
Corporate Project Support - 1	92
Corporate Project Support - 2	111
Corporate Project Support - 3	148
Intern/ Coop	57

**Rates for In-House Services****Technology Charge**

\$8.50 per hour

**Bulk Printing and Reproduction****Travel**

Standard IRS Rates

	<b><u>B&amp;W</u></b>	<b><u>Color</u></b>
Small Format (per copy)	\$0.10	\$0.25
Large Format (per sq. ft.)		
Bond	\$0.25	\$0.75
Glossy / Mylar	\$0.75	\$1.25
Vinyl / Adhesive	\$1.50	\$2.00
Mounting (per sq. ft.)	\$2.00	
Binding (per binding)	\$0.25	

**OTHER DIRECT EXPENSES:**

Other direct expenses are reimbursed at actual cost times a multiplier of 1.10. They include outside printing and reproduction expense, communication expense, travel, transportation and subsistence away from the FNI office and other miscellaneous expenses directly related to the work, including costs of laboratory analysis, test, and other work required to be done by independent persons other than staff members. For Resident Representative services performed by non-FNI employees and CAD services performed In-house by non-FNI employees where FNI provides workspace and equipment to perform such services, these services will be billed at cost times a multiplier of 2.0. This markup approximates the cost to FNI if an FNI employee was performing the same or similar services.

**These rates are subject to annual adjustment. Last Updated February 2015.**