

**FIRST AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT
(TRINITY WELLFIELD EXPANSION PROJECT)**

This **FIRST AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT** (the “First Amendment”) is made and entered into by and between **NEW BRAUNFELS UTILITIES**, a Texas municipal owned utility (“NBU”), and **ARCADIS U.S. INC.**, a Delaware corporation authorized to transact business in the State of Texas (the “Professional”) (collectively, “the Parties”).

RECITALS:

WHEREAS, NBU and the Professional entered into a Professional Services Agreement dated July 12, 2021 (the “Agreement”), to provide project management, collection and review of data and information, conduct a project workshop, preliminary design, final design, bid phase, construction phase, Trinity Aquifer (“TA”) well water quality analysis, topographic survey, easement survey, additional permitting, and construction phase services relating to well acidization, resident project representative, and well startup, commissioning, and performance evaluation services (the “Existing Services”) for the Trinity Wellfield Expansion Project (the “Project”) to be completed by May 8, 2023;

WHEREAS, NBU previously secured Texas Water Development Board (“TWDB”) Drinking Water State Revolving Fund Program funding for the Surface Water Treatment Expansion Project (“SWTPE Project”) to increase water supply and production capacity to serve projected growth in NBU’s water service area;

WHEREAS, the SWTPE Project has been delayed to further other NBU project priorities;

WHEREAS, NBU will work with TWDB to reallocate the previously secured funding from the SWTPE Project to three other NBU projects including this Project;

WHEREAS, NBU and the Professional have identified services that must be completed for the Project before seeking reallocation of previously secured funding from the TWDB;

WHEREAS, these services include (i) modifying the project management, collection and review of data and information, final design, bid phase, construction phase, additional permitting, and construction phase services, and (ii) adding new geotechnical investigation and TWDB environmental information document services to submit to the TWDB (the “New Services” together with the Existing Services, the “Services”);

WHEREAS, NBU and the Professional desire to include Project specific professional engineering services contemplated by Chapter 2254 of the Texas Government Code (the “Supplemental Services”) to the Services;

WHEREAS, the New Services and Supplemental Services require an increase in the compensation to the Professional and an extension of the completion date of the Project;

WHEREAS, the Agreement requires NBU and the Professional to agree in writing to amend or modify the Agreement; and

WHEREAS, NBU and the Professional desire to amend the Agreement to (i) add the New Services, (ii) increase the compensation for the Services, (iii) extend the completion date to March 31, 2024, (iv) add Supplemental Services, and (v) include compensation for Supplemental Services.

NOW THEREFORE, in consideration of the foregoing promises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

AGREEMENT

Section 1. Amendment to Exhibit A. Exhibit A to the Agreement is hereby deleted in its entirety and replaced by Exhibit A to this First Amendment as of the effective date of this First Amendment.

Section 2. Amendment to Exhibit B. Exhibit B to the Agreement is hereby deleted in its entirety and replaced by Exhibit B to this First Amendment as of the effective date of this First Amendment.

Section 3. Remaining Terms. Except as stated herein, all other terms and conditions of the Agreement remain in full force and effect.

Section 4. Entire Agreement. This First Amendment, together with the Agreement, sets forth the entire understanding of NBU and the Professional and supersedes all prior agreements and understandings, whether written or oral, with respect to the subject matter hereof.

Section 5. Binding Effect. This First Amendment will extend to and be binding upon NBU and the Professional and their respective successors and permitted assigns.

Section 6. Severability. If any term or provision of this First Amendment is held to be invalid, illegal, or unenforceable in any respect under applicable law, the legality, validity or enforceability of the remaining terms or provisions of this First Amendment shall not be affected thereby, and this First Amendment shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Section 7. Governing Law. This First Amendment shall be governed by and construed in accordance with the laws of the State of Texas.

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IN WITNESS WHEREOF, the parties hereto have executed this First Amendment on this the ___ day of _____, 2022.

NBU:
NEW BRAUNFELS UTILITIES,
a Texas municipal owned utility

By: _____
Name: Ian Taylor
Title: CEO

PROFESSIONAL:
ARCADIS U.S., INC.,
a Delaware corporation authorized
to transact business in the State of Texas

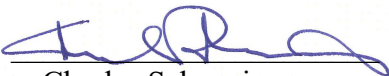
By: 
Name: Charles Schoening
Title: Principal-in-Charge

Exhibit A

Services

The Professional shall provide all labor, material, and equipment necessary to provide project management, collection and review of data and information, project workshop, preliminary design phase, final design phase, bid phase, construction phase, water quality sampling and analysis, topographic survey, geotechnical investigation, easement survey, additional water quality sampling and analysis, Texas Water Development Board (“TWDB”) environmental information document (“EID”), additional permitting, and construction phase services relating to well acidization, resident project representative, and well startup, commissioning, and performance evaluation (collectively the “Services”) for the Trinity Wellfield Expansion Project consisting of four (4) new water production wells in the Trinity Aquifer (the “Project”).

The Professional shall perform the Services in accordance with the tasks described herein.

Task 1 - Project Management

The Professional shall perform the project management services described herein.

- 1) The Professional shall manage a design package and conduct an evaluation described herein.
 - a) The design package shall include construction of (i) four (4) new water production wells in the Trinity Aquifer (“TA”) (ii) well flush piping extensions, (iii) a well flush discharge basin, (iv) site grading/drainage, (v) permanent access roads to each well, and (vi) site restoration at a 48.5-acre parcel owned by NBU at Westpointe Drive in New Braunfels, TX (the “Project Site”).
 - b) The evaluation shall include a TA well water quality analysis. The Professional shall provide a technical memorandum that summarizes the water quality testing results and analysis from the sampling events to the NBU Project Manager via email in portable document format (“PDF”).
- 2) The Professional shall develop a baseline design schedule for the Project within two (2) weeks after Notice to Proceed (“NTP”), prepare updated design schedules for the Project on a monthly basis for the NBU Project Manager to monitor progress, and identify design submittal dates. The schedule shall be provided to the NBU Project Manager via email in PDF.
- 3) The Professional shall develop a quality assurance/quality control (“QA/QC”) program for the Project, via a written document that explains the program in detail and submit it to the NBU Project Manager via email in PDF within two (2) weeks after notice to proceed.
- 4) The Professional shall provide the NBU Project Manager with electronic monthly progress reports within ten days of the end of the month and submit written invoices for the Project, via email in PDF every month for the previous month’s work.
- 5) The Professional shall track and document all action items and decisions made by NBU and

the Project team in connection with the Project through meeting minutes.

- 6) The Professional shall manage the project integration, scope, schedule, cost, quality, staff resources, sub consultants, communications, risk analysis and management, and procurements as NBU directs, to include the following:
 - a) assigning a senior advisor to oversee the QA/QC program;
 - b) creating a health and safety plan for field work in accordance with the Professional's business rules;
 - c) developing cost estimates using recent bid tabs from similar projects;
 - d) using Microsoft Project to manage the schedule; and
 - e) coordinating communication with sub consultants through emails and meetings.
- 7) The Professional shall provide a meeting agenda no later than one (1) week before every meeting and meeting minutes for all meetings to the NBU Project Manager within one (1) week after every meeting via email in PDF. The Professional may combine meetings with design deliverable review meetings as the schedule allows and with NBU's consent.

Task 2 – Collection and Review of Data and Information

The Professional shall perform data collection and review described herein.

- 1) The Professional shall develop a list of existing data needs (such as operational and maintenance records, and record drawings) and planning assumptions to be reviewed, confirmed, or updated with NBU.
- 2) The Professional shall perform data collection and analysis, including (i) data on the existing wellfield and treatment plant near the location(s) being considered, (ii) existing data from NBU Headquarters project, including topographic survey, environmental reports prepared by others, and (iii) computer aided design ("CAD") drawings in AutoCAD format and geographic information system ("GIS") information.
- 3) The Professional shall gather and review public geotechnical information on existing TA wells in the area.

Task 3 – Project Workshop

The Professional shall perform project workshop services described herein.

- 1) The Professional shall conduct a project workshop with NBU to: (i) confirm the project scope of work (ii) discuss the data collected and reviewed, (iii) present preliminary conclusions and recommendations for the proposed TA well sites; and (iv) confirm the locations for the TA wells that are preferred by NBU.

The workshop will be attended by the Professional and NBU Engineering and Operations Staff.

- 2) The Professional shall request NBU to provide guidance on preferred equipment suppliers, and protocols for instrumentation and control.
- 3) The Professional shall discuss and confirm with workshop participants the permits required for the TA well and related facilities from the City of New Braunfels (the “CoNB”), Texas Commission on Environmental Quality (“TCEQ”), groundwater conservation districts, and other local and government agencies as applicable.
- 4) The Professional shall provide the NBU Project Manager an agenda no later than one (1) week before the workshop, and document the workshop discussion with meeting minutes provided to the NBU Project Manager via email in PDF within one (1) week after the workshop.

Task 4 – Preliminary Design Phase

The Professional shall perform the preliminary design phase services described herein.

- 1) The Professional shall provide a meeting agenda no later than one (1) week before every meeting and meeting minutes within one (1) week after every meeting via email in PDF to the NBU Project Manager for the following meetings:
 - a) one (1) project kick-off meeting with NBU; and
 - b) two (2) preliminary design status meetings with NBU.
- 2) The Professional shall prepare a preliminary design memorandum that includes:
 - a) a description of the proposed wells and construction methods;
 - b) preliminary site layout for the new wells which considers NBU future projects at the site;
 - c) ancillary well equipment, such as flow metering, valves, gauges;
 - d) an evaluation of the need for disinfection and chemical treatment facilities at each well location;
 - e) electrical, instrumentation, control, and monitoring equipment for the proposed wells;
 - f) piping necessary to connect the well (raw water) to the existing membrane plant; and
 - g) opinion of probable construction cost (“OPCC”).
- 3) The Professional shall submit a draft of the preliminary design memorandum for review and comment in PDF to the NBU Project Manager.
- 4) The Professional shall incorporate NBU’s comments and submit a final design memorandum in PDF to the NBU Project Manager.

Task 5 – Final Design Phase

The Professional shall perform the final design phase services described herein.

- 1) The Professional shall provide to the NBU Project Manager a meeting agenda no later than one (1) week before, and meeting minutes no later than one (1) week after, the following meetings:
 - a) one (1) 60% design review meeting;
 - b) five (5) design meetings; and
 - c) permit coordination meeting(s) with the CoNB, TCEQ, and Comal Trinity Groundwater Conservation District (“CTGCD”) as necessary.
- 2) Based on the decisions made by NBU in the preliminary design phase, the Professional shall prepare design packages with 60% and 100% plans and specifications, bid form and OPCC.
- 3) The Professional shall prepare plans in AutoCAD format that include site/civil, mechanical, structural, electrical and instrumentation and controls (approximately 57 sheets) and technical specifications.
- 4) The Professional shall submit the draft 60% design package to the NBU Project Manager in PDF and three (3) hard copies with 11x17 size plans.
- 5) The Professional shall submit the draft 100% design package to the NBU Project Manager in PDF and three (3) hard copies with 11x17 size plans.
- 6) Upon receipt of the 60% and 100% design package deliverables, NBU shall submit to the Professional any comments regarding the submittal within two (2) weeks of receipt.
- 7) The Professional shall submit to the NBU Project Manager a revised 60% and final signed and sealed 100% design packages that shall incorporate comments provided by NBU within two (2) weeks after receiving the comments.
- 8) The Professional shall perform permitting services described herein.
 - a) The Professional shall perform Edwards Aquifer Authority (“EAA”) permitting as described herein.
 - i) The Professional shall prepare an EAA permit application and a CTGCD permit application for the authorizations needed for the proposed TA wells.
 - ii) The Professional shall conduct one (1) meeting with CTGCD staff as needed. The professional will prepare meeting minutes for this meeting and provide to the NBU project manager no later than three days after the meeting.
 - iii) The Professional shall submit the draft well permit applications to NBU for review and comment. The draft well permit applications shall be submitted to NBU.

- iv) The Professional shall submit the final permit applications to EAA and CTGCD for approval. The final permit application for the proposed wells shall be submitted to NBU.
- b) The Professional shall perform TCEQ permitting described herein.
 - i) The Professional shall prepare and submit to TCEQ a permit application, the plans and technical specifications for the proposed TA water wells. Any relevant data obtained from the TA test hole will be submitted with the final plans and specifications to TCEQ for approval.
 - ii) The Professional shall conduct permitting activities to meet the requirements of TCEQ Rules (30 TAC 290.41) for public water supply sources, which includes the Pollution Hazard Survey of the area surrounding the proposed well locations.

Task 6 – Bid Phase

The Professional shall perform the bid phase services as described herein.

- 1) The Professional shall attend a pre-bid conference that NBU administers. The Professional shall assist NBU by (i) preparing an agenda, (ii) providing NBU with meeting notes via email in PDF no later than one (1) week after the pre-bid conference, and (iii) coordinating conference responses with NBU no later than one (1) week after the pre-bid conference.
- 2) The Professional shall create addenda with written responses to issues identified at the pre-bid conference and submit to the NBU Project Manager via email in PDF no later than one (1) week after the pre-bid conference. The NBU Purchasing Department shall provide final approval of addenda and disseminate the documents to prospective bidders.
- 3) The Professional shall assist NBU with responding to questions from respondents and interpreting the plans and specifications.
- 4) The Professional shall attend a bid-opening conference that NBU administers. The Professional shall assist NBU in analyzing the bids received for the Project, including researching contractor qualifications and references. The Professional shall recommend the award of the contract or recommend other actions for NBU to take by preparing a letter of recommendation and submitting the letter to NBU no later than one (1) week after the bid opening via email in PDF.
- 5) The Professional shall incorporate all addenda into the plans and specifications and prepare a conformed set and submit the conformed set to the NBU Project Manager as one (1) PDF copy and two (2) hard copies no later than two (2) weeks after the bid opening.

Task 7 – Construction Phase

The Professional shall perform basic construction phase services as described herein.

- 1) The Professional shall attend the following meetings and site visits as described herein.

- a) The Professional shall assist NBU in conducting a pre-construction conference with the contractor by preparing an agenda one week prior to the conference and preparing and providing the NBU Project Manager with meeting notes no later than one (1) week after the conference, and coordinating conference responses with the NBU Project Manager.
 - b) The Professional shall conduct one (1) construction document control workshop for the contractor.
 - c) The Professional shall attend up to a total of twelve (12) monthly construction progress meetings. The Professional shall prepare an agenda, and record and distribute meeting minutes to the NBU Project Manager and the contractor.
 - d) The Professional shall attend up to a total of twelve (12) monthly site visits during construction of the Project to observe the progress and the quality of work and to determine if the work is proceeding in accordance with the plans and specifications. The Professional shall prepare and provide the NBU Project Manager with observation reports for each site visit and notify the NBU Project Manager via email on the day of the observation of any non-conforming work performed by the contractor.
 - e) The Professional shall conduct, with NBU's representatives, a substantial completion inspection and punch list review for conformance with the design concept of the Project's plans and specifications. The Professional shall prepare and submit a list of deficiencies that require correction by the contractors before submitting a recommendation of contractor's final payment.
 - f) The Professional shall conduct a final completion inspection for the construction package of the Project, with NBU's representatives, for conformance with the design concept of the Project's plans and specifications. The Professional shall prepare a final completion report and submit the report before submitting a recommendation of contractor's final payment.
- 2) The Professional shall perform construction administration services described herein.
- a) The Professional shall establish and maintain a document management system consistent with the requirements of the construction contract documents. The Professional shall (i) monitor the contractor's submittals (shop drawings, requests for information, schedules, certified test reports, etc.), (ii) provide for filing and retrieval of Project documentation, and (iii) verify that the contractor is sending and processing submittals in accordance with the specifications.
 - b) The Professional shall produce monthly reports that indicate the status of all submittals in the review process and submit them, via email, to the NBU Project Manager and review all contractor submittals for compliance with the design concepts including the following:
 - i) shop drawings;
 - ii) record data;
 - iii) requests for information;

- iv) schedules;
 - v) certified test reports;
 - vi) operation and maintenance manuals; and
 - vii) other miscellaneous submittals.
- c) The Professional shall manage the field/change order documents, requests for information, and contractor claim process for the Project including the following:
- i) establish procedures and document construction changes required to implement modifications to the Project;
 - ii) process contract modifications and negotiate with the contractor at NBU's direction to determine the cost and time impacts of these changes;
 - iii) prepare field/change order documentation for up to seven (7) field orders for minor alterations and up to seven (7) change orders; and
 - iv) evaluate notices of contractor claims, make initial recommendations to the NBU Project Manager on the merit and value of the claim based on information submitted by the contractor or available Project documentation, and negotiate a settlement value with the contractor at NBU's direction.
- d) The Professional shall interpret the plans and specifications for NBU and the contractor during the course of the construction Project.
- e) The Professional shall review, evaluate, and provide comments on monthly and final estimates for payment to the contractor pursuant to the general conditions of the construction contract during the course of the construction Project.
- f) The Professional shall prepare the record drawings based on the revised redline construction drawings and information furnished by the contractor reflecting changes in the Project made during construction. The Professional shall prepare one (1) set of record drawings at the completion of the Project and submit to the NBU Project Manager.
- 3) The Professional shall perform oversight of the construction of the following well construction stages:
- a) pilot borehole drilling;
 - b) well surveys;
 - c) casing installation;
 - d) cementing operations;
 - e) pumping tests; and

- f) geophysical logging.
- 4) The Professional shall perform the following construction stages after the well is constructed:
- a) final TCEQ water quality testing; and
 - b) documentation for TCEQ plan review.
- 5) The Professional shall submit the following deliverables to NBU:
- a) meeting agendas provided via email in PDF no later than one (1) week before the preconstruction conference and construction progress meetings;
 - b) meeting minutes and conference responses provided via email in PDF within one (1) week after the preconstruction conference and construction progress meetings;
 - c) site observation reports provided on a monthly basis via email in PDF;
 - d) substantial completion inspection and punch list report submitted via email in PDF no later than one (1) week after substantial completion inspection;
 - e) final completion inspection report submitted via email in PDF no later than one (1) week after final completion inspection;
 - f) plan of record drawings and specifications submitted in PDF no later than two (2) months after final completion; and
 - g) a geo-referenced AutoCAD file in accordance with NBU standards (located at <http://www.nbutexas.com/residential/water-services>), with features adjusted to the location of global positioning system points collected in the field by the contractor, shall be provided no later than sixty (60) days after final completion.

Task 8 – Water Quality Sampling and Analysis

The Professional shall perform a water quality analysis and comparison described herein following completion of pilot test holes for proposed wells 1, 3, and 4.

- 1) The Professional shall analyze water quality testing data to identify water quality parameters that may require treatment prior to distribution. Water quality parameters identified in Table 1 are based on historical testing data that was completed after construction of existing Trinity wells located on-site.
- 2) The Professional shall coordinate sampling events from each test well as described herein.
 - a) The Professional shall provide a sampling plan to the NBU Project Manager for collection of water samples from the proposed Trinity aquifer test wells 1, 3, and 4 and instructions for field testing of select parameters and shipment of samples to a Eurofins Eaton Analytical laboratory testing facility for analysis, as shown in Table 1, along with corresponding regulatory limits/industry standards. A single sampling event will be

conducted for each well as indicated in Table 1 for parameters that may be of concern and varied between the existing wells data. Sampling for each test well will occur after the well driller completes the test hole for each well. The Professional shall provide NBU with the test results via a technical memorandum.

- b) The Professional shall calculate the four indices used by the TCEQ to assess the potential for corrosion (Langelier Saturation Index, Aggressive Index, Calcium Carbonate Precipitation Potential, and Ryznar Stability Index) along with the Dissolved Inorganic Carbonate, Modified Larson Ratio, Chloride-to-Sulfate Mass Ratio and lead and copper solubility.
 - c) The Professional shall review recent and historical water quality reports for existing Trinity aquifer wells on-site for comparison to the water quality from the new TA wells 1, 3, and 4.
 - d) The Professional shall compare the water quality analysis results to regulatory limits and industry standards and identify any parameters that may require treatment.
- 3) The Professional shall prepare a draft technical memorandum summarizing the water quality testing results and analysis from the sampling events and provide to the NBU Project Manager.
- 4) The Professional has made the following assumptions for this Task:
- a) Recent and historical water quality data from NBU's existing operational Trinity aquifer wells will be provided to the Professional in a digital format.
 - b) NBU will provide access to the Project Site for testing events.
- 5) The professional shall provide the following deliverables for this Task:
- a) Water Quality Testing Results via email in PDF; and
 - b) Draft Water Quality Analysis Technical Memo via email in PDF.

Table 1: Water Quality Parameter Testing

Parameter	TCEQ Drinking Water Criteria	TCEQ Public Well Criteria	Eurofins		Methods
			No. of Wells Sampled	No. of Sampling Events per Well	
General Water Quality					
Alkalinity (as CaCO3)	Related to corrosion	-	3	1	SM 2320B
Hardness (as CaCO3)	Related to scaling; typically below 150 mg/L	-	3	1	SM 2340B
Redox Potential (mV)	-	-	3	1	Field Measured
Absorbance (UV254)	-	-	3	1	Field Measured
Langelier Saturation Index	-	Non Corrosive	3	1	Calculated
Conductivity	-	-	3	1	Calculated
Ryznar Stability Index	-	Non Corrosive	3	1	Calculated
Dissolved Oxygen	-	-	3	1	Field Measured
Dissolved Organic Carbon	-	-	3	1	SM 5310C
Total Organic Carbon (TOC)	Related to DBPs	-	3	1	SM 5310C
Total Coliform; E. coli	MCLG = 0 mg/L; 5%	0	3	1	Quanti-Tray/2000
pH	SMCL = > 7	SCL >= 7	3	1	Field Measured
Threshold Odor Number (TON)	SMCL = 3 TON	-	3	1	SM 2150B
Total Suspended Solids (TSS)	-	-	3	1	SM 2540D
Total Dissolved Solids (TDS)	SMCL = 1,000 mg/L	-	3	1	SM 2540C
Temperature (°C)	-	-	3	1	Field Measured
Turbidity	MCL = 0.3 NTUs (if conventional filtration); MCL = 5 NTUs (otherwise)	-	3	1	Field Measured
Inorganics					
Ammonia (total)	Odor effects at 1.5 mg/L; Taste effects at 35 mg/L	-	3	1	EPA 350.1
Chloride	SMCL = 250 mg/L	SCL = 300 mg/L	3	1	EPA 300.0A
Color	SMCL = 15 color units	-	3	1	SM 2120B
Cyanide (as free cyanide)	MCL = 0.2 mg/L	-	3	1	SM 4500CN-F
Fluoride	SMCL = 2.0 mg/L; MCL = 4.0 mg/L	MCL = 4.0 mg/L; SCL = 2.0 mg/L	3	1	SM 4500F-C
Mercury (inorganic)	MCL = 0.002 mg/L	-	3	1	EPA 245.1
Nitrate (measured as N)	MCL = 10 mg/L	-	3	1	EPA 300.0A
Nitrite (measured as N)	MCL = 1 mg/L	-	3	1	EPA 300.0A
Carbon Dioxide (Free)	-	-	3	1	
Sulfate	SMCL = 300 mg/L	SCL = 300 mg/L	3	1	EPA 300.0A
Total Sulfide	-	-	3	1	SM 4500 SD
Hydrogen Sulfide	SMCL = 0.05 mg/L	-	3	1	SM 4500
Metals					
Calcium	Taste effects at 100 mg/L; Related to corrosion	-	3	1	EPA 200.7
Iron (total)	SMCL = 0.3 mg/L	SCL = 0.3 mg/L			EPA 200.7
Sodium	-	-			EPA 200.7
Iron (Dissolved)	-	-	3	1	EPA 200.7
Potassium	-	-	3	1	EPA 200.7
Magnesium	-	-	3	1	EPA 200.7
Aluminum (Dissolved)	-	-	3	1	EPA 200.8
Total Aluminum	SMCL = 0.05 to 0.2 mg/L	SCL = 0.2 mg/L	3	1	EPA 200.8
Antimony	MCL = 0.006 mg/L	-			EPA 200.8
Arsenic	MCL = 0.01 mg/L	MCL = 0.01 mg/L			EPA 200.8
Barium	MCL = 2 mg/L	-			EPA 200.8
Beryllium	MCL = 0.004 mg/L	-			EPA 200.8
Cadmium	MCL = 0.005 mg/L	-			EPA 200.8
Chromium (total)	MCL = 0.1 mg/L	-			EPA 200.8
Copper	Action Level = 1.3 mg/L	SCL = 1.0 mg/L			EPA 200.8
Lead	Action Level = 0.015 mg/L	-			EPA 200.8
Manganese (total)	SMCL = 0.05 mg/L	SCL = 0.05 mg/L			EPA 200.8
Selenium	MCL = 0.05 mg/L	-			EPA 200.8
Silver	SMCL = 0.1 mg/L	-			EPA 200.8
Thallium	MCL = 0.002 mg/L	-			EPA 200.8
Zinc	SMCL = 5 mg/L	SCL = 5.0 mg/L			EPA 200.8

Table 1: Water Quality Parameter Testing Cont.

Parameter	TCEQ Drinking Water Criteria	TCEQ Public Well Criteria	Eurofins		Methods
			No. of Wells Sampled	No. of Sampling Events per Well	
Alachlor	MCL = 0.002 mg/L	-	3	1	EPA 525.2
Atrazine	MCL = 0.003 mg/L	-			EPA 525.2
Benzopyrene (PAHs)	MCL = 0.0002 mg/L	-			EPA 525.2
Di(2-ethylhexyl)adipate	MCL = 04. mg/L	-			EPA 525.2
Di(2-ethylhexyl)phthalate	MCL = 0.006 mg/L	-			EPA 525.2
Endrin	MCL = 0.002 mg/L	-			EPA 525.2
Heptachlor	MCL = 0.0004 mg/L	-			EPA 525.2
Heptachlor epoxide	MCL = 0.0002 mg/L	-			EPA 525.2
Hexachlorobenzene	MCL = 0.001 mg/L	-			EPA 525.2
Hexachlorocyclopentadiene	MCL = 0.05 mg/L	-			EPA 525.2
Lindane	MCL = 0.0002 mg/L	-			EPA 525.2
Methoxychlor	MCL = 0.04 mg/L	-			EPA 525.2
Simazine	MCL = 0.004 mg/L	-			EPA 525.2
Carbofuran	MCL = 0.04 mg/L	-			3
Oxamyl (Vydate)	MCL = 0.2 mg/L	-	EPA 531.2		
Chlordane	MCL = 0.002 mg/L	-	3	1	EPA 505
Polychlorinated biphenyls (PCBs)	MCL = 0.0005 mg/L	-			EPA 505
Toxaphene	MCL = 0.003 mg/L	-			EPA 505
2,4-D	MCL = 0.07 mg/L	-	3	1	EPA 515.4
Dalapon	MCL = 0.2 mg/L	-			EPA 515.4
Dinoseb	MCL = 0.007 mg/L	-			EPA 515.4
Pentachlorophenol	MCL = 0.001 mg/L	-			EPA 515.4
Picloram	MCL = 0.5 mg/L	-			EPA 515.4
2,4,5-TP (Silvex)	MCL = 0.05 mg/L	-			EPA 515.4
1,2-Dibromo-3-chloropropane (DBCP)	MCL = 0.0002 mg/L	-			3
Ethylene dibromide	MCL = 0.00005 mg/L	-	EPA 504.1		
Dioxin (2,3,7,8-TCDD)	MCL = 0.0000007 mg/L	-	3	1	EPA 1613B
Diquat	MCL = 0.02 mg/L	-	3	1	EPA 549.2
Endothall	MCL = 0.1 mg/L	-	3	1	EPA 548.1
Glyphosate	MCL = 0.7 mg/L	-	3	1	EPA 547
Volatile Organic Contaminants					
1,1-Dichloroethylene	MCL = 0.007 mg/L	-	3	1	EPA 524.2
1,2-Dichloroethane	MCL = 0.005 mg/L	-			EPA 524.2
1,2-Dichloropropane	MCL = 0.005 mg/L	-			EPA 524.2
Benzene	MCL = 0.005 mg/L	-			EPA 524.2
Carbon tetrachloride	MCL = 0.005 mg/L	-			EPA 524.2
cis-1,2-Dichloroethylene	MCL = 0.07 mg/L	-			EPA 524.2
Dichloromethane	MCL = 0.005 mg/L	-			EPA 524.2
Monochlorobenzene	MCL = 0.1 mg/L	-			EPA 524.2
Dichlorobenzene (o)	MCL = 0.6 mg/L	-			EPA 524.2
Dichlorobenzene (p)	MCL = 0.075 mg/L	-			EPA 524.2
trans-1,2-Dichloroethylene	MCL = 0.1 mg/L	-			EPA 524.2
1,1,2-Trichloroethane	MCL = 0.005 mg/L	-			EPA 524.2
1,1,1-Trichloroethane	MCL = 0.2 mg/L	-			EPA 524.2
Ethylbenzene	MCL = 0.7 mg/L	-			EPA 524.2
1,2,4-Trichlorobenzene	MCL = 0.07 mg/L	-			EPA 524.2
Styrene	MCL = 0.1 mg/L	-			EPA 524.2
Tetrachloroethylene	MCL = 0.005 mg/L	-			EPA 524.2
Toluene	MCL = 1 mg/L	-			EPA 524.2
Trichloroethylene	MCL = 0.005 mg/L	-			EPA 524.2
Vinyl Chloride	MCL = 0.002 mg/L	-			EPA 524.2
Xylenes (total)	MCL = 10 mg/L	-	EPA 524.2		
Other Organics with MCLGs					
Acrylamide	MCLG = 0 mg/L	-	3	1	LC-MS-MS
Epichlorohydrin	MCLG = 0 (TT)	-	Included with VOCs		EPA 524.2

Water Quality Parameter Testing Not Included		
Parameter	TCEQ Drinking Water Criteria	TCEQ Public Well Criteria
Foaming Agents	SMCL = 0.5 mg/L	-
Asbestos (fibers > 10 micrometers)	MCL = 7 MFL	-
Bromide	Related to DBPs	-
Geosmin / MIB	Odor threshold	-
Orthophosphate	Related to corrosion control	-
Nickel	Nontoxic; related to hardness	-
Silica	Related to scaling	-
Total Phosphorus	Related to corrosion control	-
Radionuclides		
Gross Beta	MCL = 4 mrem/yr; 50 pCi/L	-
Gross Alpha	MCL = 15 pCi/L	-
Combined Radium 226 and 228	MCL = 5 pCi/L	-
Radon	MCL = 300 pCi/L or AMCL = 4000 pCi/L	-
Uranium	MCL = 0.03 mg/L	-

Task 9 - Topographic Survey

The Professional shall perform topographic surveying services for design described herein.

- 1) A detailed Topographic Survey and Tree Survey of the Project Site, in AutoCAD format, will be provided by NBU for the Professional’s use during design. The Professional will utilize topographic data provided for final design grade elevations for the site. The Professional will utilize tree survey provided by NBU for permitting.
- 2) The Professional shall perform additional topographic survey of the proposed Project Site for areas that may be outside or not included in the Project Site topographic survey provided by NBU at plant tie-in points and other areas where topographic survey is needed for this project. The Professional shall provide the surveys in Texas State Plane Coordinates and North American Vertical Datum 83 or more current coordinate system. Up to two days of topographic survey field work is included in this task.

Task 10 - Geotechnical Investigation

The Professional shall perform geotechnical investigation services described herein to complete a Geotechnical Report (“GR”) for the Project.

- 1) Field Exploration:
 - a) The Professional shall determine the required boring locations on the Project Site. The Professional shall provide a Project Site boring location map to NBU via email prior to

start of the field work that shows the exploratory borings within the vicinity of the proposed improvements and along the proposed water main alignments.

- b) The Professional shall coordinate with NBU, City of New Braunfels, and Texas 811 regarding underground utilities within the vicinity of the planned boring locations prior to commencement of the field exploration activities.
 - c) The Professional shall drill four (4) exploratory borings to a maximum depth of 25 feet below existing grade, for the proposed improvements according to the schedule provided below.
 - d) The Professional shall conduct the borings by using standard rotary drilling equipment with continuous-flight augers or rotary wash methods, the Professional shall collect subsurface samples by using 2-inch diameter split-spoon sampler in conjunction with the standard penetration test (“SPT”) with intermittent 3-inch diameter Shelby tube samples collected in between the SPTs, where possible.
 - e) The Professional shall record groundwater observations within the borings at the time of drilling and at the completion of drilling and sampling.
 - f) The Professional shall backfill borings with auger cuttings upon completion of drilling and sampling.
 - g) The Professional shall patch borings drilled through pavement with like material (asphalt, concrete) upon completion of backfilling.
 - h) The Professional shall have personnel experienced in logging borings, directing the drilling, and handling and transporting the samples. The Professional shall provide visual classification of the subsurface stratigraphy in general accordance to the American Society for Testing and Materials (“ASTM”), standard number D2488 and the Unified Soil Classification System (“USCS”) during drilling and sampling.
- 2) The Professional shall provide laboratory testing to include the following:
- a) testing by a geotechnical subconsultant on samples obtained from the borings to determine soil classification and pertinent engineering properties of the subsurface materials;
 - b) laboratory tests assigned for the specific subsurface materials encountered during exploration on the Project Site, but which are expected to include the following number and type of tests:
 - i) Atterberg limits tests (up to 8 tests);
 - ii) Percent Passing the #200 Sieve (up to 4 tests); and
 - iii) moisture content tests (up to 32 tests).

- 3) The Professional shall prepare a geotechnical report (“GR”) that includes the following information and recommendations, as applicable:
 - a) a summary of the field and laboratory sampling and testing program;
 - b) boring logs and laboratory testing results;
 - c) a review of general site conditions including descriptions of the site, the subsurface stratigraphy, groundwater conditions, and the presence and condition of fill materials, if encountered;
 - d) trenching, bedding and backfill recommendation for water main installation by open cut.
 - e) allowable bearing pressures for shallow foundation design and construction considerations;
 - f) slab on grade foundation recommendations;
 - g) general discussion of expected construction related issues; and
 - h) earthwork related recommendations for use during development of plans and specifications.
- 4) The Professional shall provide the final GR to the NBU Project Manager via email as PDF as a 100% design deliverable with the specifications.

Task 11 – Easement Survey

The Professional shall perform easement surveying services for design described herein.

- 1) The Professional shall prepare a legal description and metes and bounds for a 150-foot radius sanitary control easement around each of the final well locations as required by NBU and/or TCEQ. The final well locations shall be tied in and shown on the survey. Development of up to four sanitary control easements are included in this task.

Task 12 – Additional Water Quality Sampling and Testing

- 1) After the initial well sampling events, test results could indicate that a subsequent sampling event is necessary. The Professional shall perform up to one additional sampling and testing event for up to one well for parameters listed in Table 1. The Professional shall collect water samples from the proposed Trinity aquifer test well and ship samples to a Eurofins Eaton Analytical laboratory testing facility for analysis.

Task 13 – TWDB EID

The Professional shall perform services to prepare and submit an EID to TWDB described herein.

- 1) The Professional shall prepare an EID as required by the TWDB Drinking Water State Revolving Fund (“DWSRF”) (31 TAC §371, Subchapter E). The EID shall be a stand-alone, self-contained document describing the Project in sufficient detail to allow for resource agency review without reference to an engineering study or other documents. The EID will address the proposed improvements including development of well fields on an approximately 48-acre tract adjacent to the Trinity WTP. The EID format shall follow the guidelines provided by the TWDB. The Professional shall complete the following services for the EID:
 - a) Gather and review existing information – Prior to conducting a pedestrian survey within the proposed project area, the Professional will assemble and review data such as aerial photographs, United States Geological Survey (“USGS”) topographic maps, National Wetlands Inventory (“NWI”) maps, the USGS National Hydrography Dataset (“NHD”), and soils data within the area of the proposed project areas.
 - b) Conduct Pedestrian Survey – The Professional will conduct a site visit to make observations within the proposed project area to document existing environmental conditions and assess potential project impacts. The presence and locations of waters of the U.S., including wetlands, potential threatened/endangered species habitat, and vegetation cover types will be identified within the area of the proposed project areas.
 - c) Environmental Risk Database Review - The Professional shall review environmental risk database reports to assess the potential for hazardous materials contamination on property being acquired as part of the project. The Professional shall summarize the results of the database review in a technical memorandum and the results will be incorporated into the final EID.
 - d) Cultural Resources Evaluation - Projects sponsored by a political subdivision of the State that affect a cumulative area greater than five acres or that disturb more than 5,000 cubic yards require consultation with the Texas Historical Commission (“THC”) according to Section 191.0525 (d) of the Antiquities Code of Texas. Furthermore, review under Section 106 of the National Historic Preservation Act is required for federal undertakings, like funding from the DWSRF. The professional will render the following professional services, with the development of the Project, as follows:
 - i) review desktop-level datasets to assess the project’s potential for affecting significant archaeological resources. The results of the background review and interpretation will be summarized into a brief narrative letter report with supporting maps and other imagery for THC review. This letter report will inform the THC, the state’s archaeological resource regulatory agency, about the project and seek their comment about NBU’s ACT and Section 106 regulatory compliance obligations.
 - ii) review prior cultural resources surveys prepared by others and conduct a one-day pedestrian site visit to confirm the results of the prior survey. Based on the prior survey reports, the only identified cultural resources within the Project area are associated with an onsite cave, which will be fully avoided during project construction. This

information, and site confirmation results will be included in the professional report submitted to the THC for review.

- iii) If the THC determines that an archeological survey is needed to assess project-related impacts to significant resources, that work will be completed under a separate scope and fee which would include a Texas Antiquities Permit from the THC to conduct a 100 percent pedestrian survey of the project area per the published minimum survey standards for the Project area.
- iv) preparation of a Professional Report after field survey summarizing the results of the investigations, describing, and evaluating any archaeological sites investigated, mapping their location, and making management recommendations.
- e) Coordination with Project Engineers – Utilizing information gathered during the pedestrian survey, the Professional will coordinate with the project engineers to determine what requirements may be required under the Endangered Species Act or other environmental regulations.
- f) Agency Coordination - The Professional shall submit coordination/notification letters and the draft EID to appropriate agencies, as required, including potentially U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Texas Commission on Environmental Quality, Texas Parks and Wildlife Department, local managers of the Federal Flood Insurance Program, the local council of government, and other regional agencies or local governments that may have jurisdiction. Comments received from the agencies shall be incorporated into the final EID. If necessary, the Professional shall work with NBU's Project Manager to prepare and submit written responses to address state and/or federal resource agency comments. We assume that this project shall be non-controversial and that agency comments shall be minimal. If an unusual level of agency comments may cause the Professional's budget to be exceeded, the Professional will notify NBU's Project Manager for written authorization before proceeding.
- g) Preparation of Draft and Final EID - The Professional shall prepare a draft EID following appropriate TWDB guidelines (form TWDB-0801). The draft EID shall be submitted to NBU's Project Manager for review and comment. The Professional shall incorporate NBU comments into the draft EID and submit the revised draft EID to NBU's Project Manager to be made available for public review prior to the TWDB required public meeting. After the public meeting and agency coordination, the EID shall be finalized by incorporating required changes or comments received into the final document. The Final EID shall be submitted to the TWDB for approval.
- h) Public Meeting - The Professional shall assist NBU's Project Manager with holding one (1) public meeting, held at a physical location determined by NBU, by preparing a public notice for NBU to submit to local newspaper(s), participating in the public meeting, and summarizing the results of the meeting in the EID. NBU shall be responsible for having

the public notice published and all costs associated with the publication and for providing verbatim transcript services, if required.

- 2) The professional shall provide the following deliverables for this task:
 - a) Preparation and submission of one (1) EID to TWDB for approval; and
 - b) Preparation and submission of one (1) Archeological Report to the THC.

Task 14 – Additional Permitting

The Professional shall perform the additional permitting services described herein.

- 1) The Professional shall prepare and submit a City of New Braunfels (CoNB) stormwater connection permit and commercial permit application, if required, with an analysis that shall address any downstream impacts from the proposed TA well sites may have to the existing stormwater infrastructure and if the development meets the threshold for requiring permanent Best Management Practices (“BMP”) as stated in the CoNB drainage and erosion control manual.
- 2) The Professional shall prepare and submit a TCEQ Water Pollution Abatement Plan in accordance with TCEQ Edwards Aquifer Protection Plan Rules in 30 TAC Section 213. The Professional shall update the existing Geologic Assessment.

Task 15 – Construction Phase Services – Well Acidization

The Professional shall perform special construction phase services for well acidization described herein.

- 1) The Professional shall coordinate with the well drilling contractor and create an acidization plan for each of the four new wells that may require acidization.
- 2) The Professional shall coordinate the acidization setup with the contractor.
- 3) The Professional shall observe the acidization process being performed by the contractor in the field for each well that requires acidization.

Task 16 – Construction Phase Services – Resident Project Representative

The Professional shall perform resident project representative construction phase services described herein.

- 1) The Professional shall provide a part-time (12 hours per week) Resident Project Representative (“RPR”) on the Project Site for 12-months and provide an additional four (4) hours per week

of construction management time for 12 months. The duties, responsibilities, and the limitations of authority of the RPR, and designated assistants, are as follows:

a) Communication

- i) The RPR shall establish the communication procedures for all parties involved in the Project. The communication procedures shall detail the amount of time all parties have to respond to questions, submittals, or other documents, and the most efficient transmission of communication (via email, phone, etc.). The RPR shall provide the communication procedures in writing, as well as reviewing them with the NBU Project Manager, engineer of record (“EOR”), and the contractor. NBU shall approve all communication procedures.
- ii) The RPR shall conduct monthly progress meetings with NBU, EOR, and contractor to exchange information regarding the progress of construction, the status of submittals, the status of modifications, and/or to address any Project related issues.
- iii) The RPR shall prepare an agenda at least one day prior to the progress meetings, as well as record and distribute (by email) the meeting minutes in pdf no later than 3 days after the meeting to NBU and the contractor.
- iv) The RPR shall submit monthly reports of the construction progress to the NBU Project Manager no later than the first of each month, by email in pdf. The reports shall describe the construction progress and summarize Project costs, cash flow, construction schedule, pending and approved contract modifications, change order status, and outstanding issues.

b) Quality Assurance

- i) The RPR shall observe the contractor’s work to determine if the work is proceeding in accordance with the contract. The RPR shall prepare site visit reports (1 report per week, total of 48 reports) during construction and submit electronically in pdf to the NBU Project Manager documenting the RPR’s observations for that week. Reports shall be submitted to by the end of each week for that week’s construction activities occurring on-site.
- ii) The RPR shall observe and document non-conforming work and notify NBU and the contractor of its observations by email. The Professional shall notify NBU via email once the non-conforming work has been corrected, verified, and documented.
- iii) The RPR shall review documents submitted by the contractor, including test reports, equipment installation reports, or other documents required by the contract.
- iv) The RPR shall coordinate the completion of materials testing by testing laboratories and confirm the testing conducted is in accordance with applicable testing and inspection bureaus who set standards for the testing of materials, witness tests, and factory testing.

- v) The RPR shall provide qualified personnel to conduct specialty observations for structural, mechanical, electrical, and instrumentation systems as requested by NBU.
- c) Document Management
- i) The RPR shall be responsible for Submittal Management. The RPR shall perform an initial review of the submittals and electronically send the submittals to the EOR and/or the NBU Project Manager for a detailed review and response.
 - ii) The RPR shall monitor the progress of the contractor in sending and processing submittals, including obtaining signatures from all required parties for documents, and of the EOR in reviewing and responding to submittals. The RPR shall verify that documentation processed is according to the schedule.
 - iii) The RPR shall prepare monthly reports that monitor the status of all submittals in the review process. The RPR shall submit an electronic copy of the report to the NBU Project Manager once a month via email.
- d) Schedule Management
- i) The RPR shall review the baseline, the projected, and the monthly construction progress schedules submitted by the contractor. The RPR shall monitor the progress of the work completed relative to the planned progress and address any identified schedule delays by emailing the EOR, the NBU Project Manager, and the contractor promptly.
- e) Cost Management
- i) The RPR shall review the schedule of values and payment requests prepared by the contractor. The RPR shall establish with the NBU Project Manager and the contractor procedures to review the monthly quantities of work in place and the corresponding payment requests for work completed.
 - ii) The RPR shall prepare monthly cash flow requirements based upon information provided by the contractor. The RPR shall update cash flow reports monthly and include these reports with monthly updates to the NBU Project Manager via email.
 - iii) The RPR shall verify quantities of work in place, review the payment requests and supporting documentation, and provide an opinion of whether the payment requested matches the work completed to the NBU Project Manager via email.
- f) Issues Management
- i) The RPR shall provide an initial interpretation of the drawings and specifications when questions arise concerning the definition of the drawings and specifications. The RPR shall coordinate a resolution to these issues based upon a final interpretation of the drawings and specifications by the EOR, NBU, and the contractor.

- ii) The RPR shall track and document issues, procure a resolution, and notify the EOR, the NBU Project Manager, and the contractor via email promptly.
- g) Change Management
 - i) The RPR shall be responsible for Change Management.
 - ii) The RPR shall establish and document procedures for administering changes to the construction contract.
 - iii) The RPR shall coordinate with the EOR for technical review and approval of any design modifications. All design modification documents shall have the EOR's Texas engineering seal affixed.
- h) Project Completion
 - i) The RPR shall coordinate the start-up and commissioning of the facility and all process systems with the EOR, the contractor, and the NBU Project Manager. The RPR shall provide technical assistance to the contractor during the commissioning process.
 - ii) When the contractor requests that substantial completion be granted for the Project (or applicable portions thereof), the RPR shall conduct a review of the Project to determine conformance or non-conformance with the Project design and construction documents. The RPR shall determine if the EOR requires a review of the work, and if so, shall schedule the reviews of the work with the EOR. The RPR shall prepare a list of deficiencies for the contractor to correct before recommending substantial completion and any partial release or reduction of retainage to NBU. The RPR shall prepare a certificate of substantial completion that includes a list of work for completion prior to issuance of a final-completion certificate.
 - iii) The RPR shall conduct a final review of the Project for conformance with all Project documents. The RPR in conjunction with NBU shall confirm work is complete and in accordance with the Project documents prior to recommending final payment to NBU.
 - iv) The RPR shall assist NBU in obtaining permits, warranties, spare parts, operation and maintenance manuals, as-built drawings, and facility keys from the contractor. The RPR shall review and confirm that the contractor has submitted all required documents to NBU prior to recommending the final payment.
- i) Materials Transfer
 - i) The RPR shall coordinate the transfer of and acceptance by the contractor of any NBU-furnished equipment or materials.
 - ii) The RPR shall coordinate the transfer of and acceptance by NBU of any contractor-furnished spare parts, materials, keys, etc.
- j) Record Drawings

- i) The RPR shall receive and review as-built drawings from the contractor. The RPR shall electronically transmit drawings and other documents to the EOR for the preparation of the record drawings. These drawings shall include notations that reflect as-built Project components and conditions. The record drawings shall include RPR's notes, contractor's field notes, and NBU's field notes made during the construction process.
- k) Limitations of Authority of RPR
 - i) The RPR shall not authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless authorized by the EOR and NBU.
 - ii) The RPR shall not exceed limitations of EOR's authority as set forth in the Contract Documents.
 - iii) The RPR shall not undertake any of the responsibilities of contractor, subcontractor, suppliers, or contractor's superintendent.
 - iv) The RPR shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences, or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
 - v) The RPR shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work or any activities or operations of NBU or contractor.
 - vi) The RPR shall not accept shop drawing or sample submittals from anyone other than the contractor.
 - vii) The RPR shall not participate in specialized field or laboratory tests or inspections conducted by others, except as specifically authorized by NBU.

Task 17 – Construction Phase Services – Well Startup, Commissioning, and Performance Evaluation

The Professional shall perform the startup, commissioning, and performance evaluation tasks described herein.

- 1) The Professional shall assist the contractor in operating well pumping equipment for testing and operational demonstration.
 - a) The contractor shall demonstrate that each individual well pumping unit operates as designed.
 - b) The Professional shall verify that tests, equipment, and systems startups and operating and maintenance training are conducted in the presence of appropriate NBU personnel, and that the contractor maintains adequate records thereof. The Professional shall observe, record,

and report appropriate details relative to the test procedures and systems startups and shall deliver electronic copies of tests and system startup reports to the NBU Project Manager within one (1) week of receipt.

- c) The Professional shall oversee implementation of the commissioning plan included in the project specifications.
- 2) The Professional shall prepare and deliver, within four (4) weeks of startup, six (6) hardcopies and a PDF of the Operation and Maintenance (“O&M”) manual.
 - a) The Professional shall develop a comprehensive O&M Manual and instructions for the new TA Wellfield.
 - b) The terminology used in O&M Manual shall accurately reflect nomenclature of equipment labels, name tags, etc. to minimize an operator’s misinterpretation of the instructions.
 - c) The O&M Manuals shall address operating specifications and parameters, preventive maintenance recommendations and schedule, corrective maintenance information, troubleshooting methods, environmental protection requirements.
 - 3) The Professional shall provide training to NBU personnel on operation of new equipment for the new TA wells. Training shall include vendor-provided training as outlined in the specifications.
 - 4) The Professional shall aid NBU during startup and commissioning to evaluate and optimize the performance of the TA Wells.
 - a) The Professional shall evaluate the performance of mechanical, electrical and instrumentation and controls equipment to ensure it is operating within specified parameters. Based on the mechanical performance evaluation, the Professional shall work with the contractor and affected equipment vendors to rectify deficiencies prior to the expiration of the warranty period.

SUPPLEMENTAL SERVICES

Pursuant to Section 4(B) of this Agreement, the Professional shall seek prior written approval from NBU before commencing work on any Supplemental Services (“Supplemental Services”) described in this Section. If NBU requests the Professional to perform the Supplemental Services,

NBU and the Professional shall execute a supplemental services agreement or contract amendment, as appropriate, detailing the Supplemental Services to be performed and the completion date. The Supplemental Services shall only include Project specific professional engineering services contemplated by Chapter 2254 of the Texas Government Code. The Professional acknowledges the contract duration will not increase as result of engaging Supplemental Services unless noted in the supplemental services agreement or contract amendment, as appropriate.

Time of Completion

The Professional is authorized to commence work on the Services upon execution of this Agreement and agrees to complete the Services in accordance with the following schedule:

Project Milestones	Start Date	End Date
NTP	July 1, 2021	July 1, 2021
Collection and Review of Data	July 2, 2021	July 15, 2021
Project Kickoff Meeting	July 16, 2021	July 16, 2021
Preliminary Design Phase	July 19, 2021	January 17, 2022
60% Final Design Phase	February 14, 2022	June 6, 2022
100% Final Design Phase	June 7, 2022	August 4, 2022
Permitting	July 6, 2022	October 11, 2022
Bid and Award	August 5, 2022	January 26, 2023
Construction	February 1, 2023	January 31, 2024
Project Closeout	February 1, 2024	March 31, 2024

Exhibit B

Compensation

NBU shall pay the Professional for the Services and the Supplemental Services rendered under this Agreement in accordance with the tables below and made part of this Agreement.

Services

NBU shall pay the Professional for the Services during the term of this Agreement in an amount not to exceed \$1,324,800 in accordance with the table below and made a part of this Agreement.

Services Cost Breakdown	
Services Task	Fee
Task 1: Project Management	\$28,900
Task 2: Collection and Review of Data and Information	\$9,100
Task 3: Project Workshop	\$10,500
Task 4: Preliminary Design Phase	\$76,500
Task 5: Final Design Phase	\$345,700
Task 6: Bid Phase	\$38,600
Task 7: Construction Phase	\$383,700
Task 8: Water Quality Sampling and Analysis	\$39,700
Task 9: Topographic Survey	\$6,900
Task 10: Geotechnical Investigation	\$ 12,900
Task 11: Easement Survey	\$16,700
Task 12: Additional Water Quality Sampling and Testing	\$10,000
Task 13: TWDB Environmental Information Document	\$ 29,100
Task 14: Additional Permitting	\$41,200
Task 15: Construction Phase Services – Well Acidization	\$18,900
Task 16: Construction Phase Services – Resident Project Representative	\$207,500
Task 17: Construction Phase Services – Well Startup, Commissioning, and Performance Evaluation	\$48,900
Total Services	\$1,324,800

Supplemental Services

NBU shall pay the Professional for the Supplemental Services performed throughout the term of this Agreement in an amount not to exceed \$200,000; provided, however, that NBU must provide written approval in the form of a supplemental agreement, or contract amendment, as appropriate prior to the Professional performing the Supplemental Services.