Riverbend
Water Resources District

RIVERBEND RESOLUTION NO. 20160511-01

AUTHORIZING THE EXECUTIVE DIRECTOR/CEO TO ENTER INTO NEGOTIATIONS AND EXECUTE AN INTERLOCAL AGREEMENT/CONTRACT FOR REGIONAL WATER MASTER PLANNING SERVICES WITH SUSAN ROTH WATER AND WASTEWATER CONSULTING

WHEREAS, Riverbend Water Resources District is a conservation and reclamation district created under and essential to accomplish the purposes of Section 59 Article XVI, Texas Constitution, existing pursuant to and having the powers set forth in Chapter 9601 of the Special District Local Laws Code of the State of Texas;

WHEREAS, Riverbend Water Resources District has conducted numerous preliminary studies to examine the viability of extending the life of the New Boston Road Water Treatment Plan, to build a new regional water treatment plant to replace the existing plant, or to build a new plant in combination with renovations at the existing plan;

WHEREAS, Riverbend Water Resources District has a need for regional water master planning in order to review the regional demand for future potable and nonpotable supply, current available water supply, capital facilities production capacity, and transportation for the connection and distribution of water supply around the region;

WHEREAS, Riverbend Water Resources District also has a need for regional water master planning in order to further identify the necessary water resources and regional infrastructure essential to meeting the areas water demands for the next 50 years;

WHEREAS, Riverbend Water Resources District has completed the formal request for proposals (RFPs) for the development of a regional water master plan;

WHEREAS, Allan Plummer & Associates, KSA and Susan Roth Water and Wastewater Consulting all provide certain needed regional water master planning and grant seeking services, are qualified and certified to perform these services, and each has submitted acceptable proposals in response to the formal request for proposals;

Riverbend
Water Resources District

WHEREAS, Riverbend Water Resources District has assigned a raw score to each such entity based upon its review of factors relative to the proposals submitted to include the quality of response, team organization, project experience, and project approach, with said raw scoring resulting in the following order as to preferred providers for the services sought - Susan Roth Water and Wastewater Consulting, KSA and Allan Plummer & Associates;

WHEREAS, Susan Roth Water and Wastewater Consulting, based upon Riverbend Water Resources District's review, has submitted a superior proposal, and is fully qualified and certified to perform these services, and should be pursue first as to negotiating a regional water mater planning agreement acceptable to the Executive Director/CEO pursuant to the terms set forth herein;

WHEREAS, in the event, at the Executive Director/CEO's discretion, an acceptable regional water planning agreement cannot be negotiated with Susan Roth Water and Wastewater Consulting, the Executive Director/CEO shall negotiate same pursuant to the terms set forth herein with KSA, and in the event, at the Executive Director/CEO's discretion, an acceptable regional water planning agreement cannot be negotiated with KSA, the Executive Director/CEO shall negotiate same pursuant to the terms set forth herein with Allan Plummer & Associates;

WHEREAS, the regional water master planning and grant seeking services sought by Riverbend Water Resources District as provided herein shall be in an amount not to exceed $450,000.00, absent further Resolution of this board; and

NOW, THEREFORE, BE IT RESOLVED that the Executive Director/CEO shall be and is hereby authorized to negotiate and enter into a regional water master planning agreement in an amount not to exceed $450,000.00 with Susan Roth Water and Wastewater Consulting to provide regional water master planning services for Riverbend Water Resources District; or alternatively, to negotiate and enter into same with KSA under the same terms; or alternatively, to negotiate and enter into same with Allan Plummer & Associates under same terms.

PASSED and APPROVED this 11th day of May, 2016

Sean Rommel, President

Riverbend
Water Resources District

ATTEST:

Fred Milton, Secretary

PROFESSIONAL ENGINEERING SERVICES CONTRACT FOR RIVERBEND WATER RESOURCES DISTRICT

THIS CONTRACT is made and entered into by and between RIVERBEND WATER RESOURCES DISTRICT, with its principal office at 228 Texas Avenue, Suite A, New Boston, Texas 75570 (hereinafter called "RWRD") and SUSAN ROTH CONSULTING, LLC with its principal office at 4111 Tablerock Drive, Austin, Texas 78731(hereinafter called "ENGINEER").

WHEREAS, RWRD desires to develop a regional master plan for water facilities to serve existing and future populations in their water service area (hereinafter called "PROJECT"); and

WHEREAS, PROJECT shall be used to determine the feasibility of developing a regional water system or supplementing the current water systems in the area, will provide planning for reliable water supply, will provide options for smaller water systems in the area to connect to larger water systems, and will outline water conservation and protection of water quality for the region; and

WHEREAS, RWRD desires to obtain professional engineering services in connection with PROJECT; and

WHEREAS, ENGINEER represents that she is qualified and capable of performing the engineering services proposed herein, is acceptable to RWRD, and is willing to enter into a CONTRACT with RWRD to perform such services; and

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, RWRD and ENGINEER agree as follows:

ARTICLE I

RETAINER

RWRD agrees to retain ENGINEER and the ENGINEER agrees to perform engineering services in connection with PROJECT. RWRD agrees to pay and ENGINEER agrees to accept fees as specified hereinafter as full and final compensation for the services authorized and accomplished.

It is understood and agreed that no professional services of any nature shall be undertaken under this CONTRACT by ENGINEER until ENGINEER is instructed in writing by RWRD to commence with the work.

ARTICLE II

PROFESSIONAL QUALITY

ENGINEER shall be responsible for the professional quality, technical accuracy, timely completion, and coordination of all designs, drawings, documents, estimates, specifications, reports, studies and other material (all items collectively hereinafter called "PROJECT DOCUMENTS") and services furnished by ENGINEER under this CONTRACT. Approval by RWRD of PROJECT DOCUMENTS, services, and incidental engineering services shall not in any way relieve ENGINEER of responsibility for the technical accuracy of the engineering services performed. RWRD's review, approval or acceptance of, or payment for any of the

services described herein shall not be construed to operate as a waiver of any rights under this CONTRACT or of any cause of action arising out of the performance of this CONTRACT.

ARTICLE III

ENGINEERING SERVICES

ENGINEER agrees to perform ENGINEERING SERVICES in connection with the PROJECT as hereinafter stated, in accordance with the stipulations within this CONTRACT. The ENGINEER shall perform ENGINEERING SERVICES necessary for the development of the PROJECT as follows:

1 Provide all services and information as specifically outlined in the Scope of Work outlined in this contract is hereto attached as ATTACHMENT A which lists the responsibilities of the professional engineering consultant in PROJECT.

2 Perform the planning study for PROJECT which includes preparing presentation materials, drafting PROJECT DOCUMENTS plus preparing and presenting the PROJECT DOCUMENTS before RWRD as requested.

ARTICLE IV

SPECIAL ENGINEERING SERVICES

Various SPECIAL SERVICES incidental to the PROJECT, but not within the scope of the ENGINEERING SERVICES covered by ARTICLE III preceding, shall be arranged for separately in an additional contract between RWRD and ENGINEER; or by an amendment to this contract which requires mutual agreement of the Parties in writing.

ARTICLE V

SERVICES BY RWRD

RWRD and its representatives will render services inclusive of the following:

(1) Assist the ENGINEER by placing at her disposal all available written data pertinent to the PROJECT;

(2) Examine documents submitted by the ENGINEER and render a decision pertaining thereto promptly, to avoid unreasonable delay in the progress of the ENGINEER'S services;

(3) Furnish information required as expeditiously as possible for the orderly progress of the work;

(4) The Executive Director shall serve or appoint, in writing, a representative that ENGINEER shall be entitled to rely upon regarding decisions made by RWRD. All subsequent communication to RWRD shall be deemed made when conveyed in writing to the representative at the location specified in ARTICLE XV, NOTICES; and

(5) The services, information, and reports required by this ARTICLE, inclusive, shall be furnished at RWRD's expense, and RWRD will use its best efforts to apprise the ENGINEER of any inaccuracies or inconsistencies in the information provided.

ARTICLE VI

COMPENSATION

A. ENGINEERING SERVICES

For and in consideration of the BASIC ENGINEERING SERVICES (ARTICLE III) to be rendered by ENGINEER, RWRD shall pay, and ENGINEER shall receive compensation as hereinafter set forth. All remittance by RWRD for such compensation shall either be mailed or delivered to ENGINEER'S office as identified in ARTICLE XV, NOTICES.

Compensation for ENGINEERING SERVICES shall be paid by RWRD to ENGINEER for all services required for work stated under ARTICLE III, in the amount of four hundred twenty thousand dollars ($420,000.00) in Phase 1 and fifty thousand dollars ($50,000.00) in Phase 2.

B. SPECIAL SERVICES

For and in consideration of the SPECIAL SERVICES set forth in ARTICLE IV, herein, RWRD shall pay ENGINEER according to agreement which shall be in writing.

C. METHOD OF BILLING

For services performed by ENGINEER for RWRD under the terms of this CONTRACT, ENGINEER shall submit statements monthly reflecting ENGINEER'S requested compensation for that portion of the ENGINEERING SERVICES completed by ENGINEER and shown by invoice. The billing for any special services shall be outlined if and when the parties choose to enter into an agreement for additional ENGINEERING SERVICES or in an amendment of this contract.

D. TIME OF PAYMENT OF COMPENSATION

ENGINEER shall submit a request for partial payments for services on a monthly basis, as evidenced by monthly statements submitted by ENGINEER to RWRD; the monthly statements will include a progress report summarizing the work performed during the payment period. Final payment for services authorized shall be due upon completion of these services.

Should RWRD fail to make payment to ENGINEER, the sum named in any partial or final statement, and when payment is past due for more than forty-five (45) days, then RWRD shall pay to ENGINEER, in addition to the sum shown as due by such statement, interest thereon at the rate as recognized and allowed by Texas Law.

However, in the event that the sum shown as due to ENGINEER by such statement shall be disputed, questioned, or objected to by RWRD, then said interest rate as allowed by Texas Law from the date due shall only apply to that portion or amount of payment which is finally and mutually agreed upon by RWRD and ENGINEER to be rightfully due and owing to ENGINEER.

ARTICLE VII

AUDIT OF RECORDS

All records of ENGINEER of a financial or timekeeping basis which have been used to determine the fees earned by ENGINEER and billed to RWRD shall be open to inspection and subject to audit and/or reproduction by RWRD's agent or its authorized representative to the extent necessary to adequately permit evaluation and verification of cost of the services at the conclusion of the scope of all services to be performed under this CONTRACT. In its audits, RWRD may require inspection and copying from time to time and at reasonable times and places of any and all information, materials and data of every kind and character that may in RWRD's judgment have any bearing on or pertain to the payments subject to this audit. RWRD shall be afforded access to all of ENGINEER'S records pursuant to the provisions of this ARTICLE at the conclusion of the term of the CONTRACT and for a period of three (3) years after final payment.

ARTICLE VIII

LIABILITY AND INSURANCE MATTERS

During the term of this CONTRACT, ENGINEER shall maintain, and shall require its subcontractors to maintain:

(1) Professional liability insurance of $500,000 per claim and $1,000,000 in aggregate. If the coverage is project specific, it must have an extended discovery period of not less than four (4) years after completion of the PROJECT; all said insurance shall be with carriers satisfactory to RWRD in its sole discretion;

(2) ENGINEER also agrees to furnish to RWRD, within seven (7) days of RWRD's execution date of this contract, certificates reflecting that the above-required insurance coverage is in full force and effect.

ARTICLE IX

ASSIGNMENT

Neither this CONTRACT, nor any right privilege or cause of action arising hereunder may be assigned in whole or in part for any purpose and whether in settlement of litigation or not, and any purported assignment shall be null, void and unenforceable without the written consent of the RWRD. RWRD and the ENGINEER each binds itself and its successors and assigns to the other party with respect to all covenants of this CONTRACT.

ARTICLE X

TERMINATION

In connection with all the engineering services outlined or contemplated above, it is agreed that RWRD or the ENGINEER may cancel or terminate this CONTRACT upon thirty (30) days written notice to the other, with the provision and understanding that immediately upon receipt of notice of such cancellation from either party to the other, all work and labor being performed under this CONTRACT shall immediately cease, pending final cancellation at the end

of such thirty (30) day period, and further provided that the ENGINEER shall be compensated in accordance with the terms of this CONTRACT for all work accomplished prior to the receipt of notice of such termination. All completed or partially completed PROJECT DOCUMENTS prepared under this CONTRACT shall then be delivered to RWRD, which it may use without restraint. All rights, duties, liabilities, and obligations accrued prior to such termination shall survive termination.

ARTICLE XI

PROJECT DOCUMENTS

All PROJECT DOCUMENTS excluding the grant application are and shall become the property of RWRD, which it may use without restraint. ENGINEER is not responsible and is hereby released from responsibility for RWRD's use of the documents for any purpose other than for PROJECT.

ARTICLE XII

PRIVATE LAND ENTRY

ENGINEER shall not enter any property owned by others on RWRD's behalf to perform services under this CONTRACT until the ENGINEER has secured the landowner's permission to so enter and perform such activities.

ARTICLE XIII

LAWS AND ORDINANCES

ENGINEER shall at all times observe and comply with all federal, state, and local laws, ordinances, rules, regulations, and orders of any public governmental entity, which in any manner affect this CONTRACT or the PROJECT. ENGINEER agrees, moreover, not to discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, or national origin. ENGINEER agrees to comply with the Immigration Reform and Control Act of 1986 and the Americans with Disabilities Act of 1990. The ENGINEER agrees that the indemnification provisions of ARTICLE XIV INDEMNIFICATION below encompass any failure by the ENGINEER to comply with this article.

ARTICLE XIV

INDEMNIFICATION

ENGINEER does hereby covenant and contract to waive all claims, release, indemnify, defend and hold harmless RWRD all of its officers, employees and invitees in both their public and private capacities, from and against any and all liability, claims, suits, demands, or causes of action, including all expenses of litigation, and/or settlement which may arise by reason of injury to or death or debt of any person, or for loss of, damage to or loss of use of any property, including real or personal property, arising out of or in connection with ENGINEER'S performance of this CONTRACT, provided that the claims, suits, losses, damages, causes of action or liability of whatever nature arise in whole or in part from the negligence of ENGINEER or any of its officer's, officials, agents, employees or invitees, whether said negligence is contractual comparative negligence, joint or concurrent negligence, gross negligence, active negligence, passive negligence or any other form of negligence. ENGINEER contracts to

indemnify and protect RWRD from any liability, claims, suits, losses, damages, attorney's fees or causes of action due to ENGINEER'S negligence, joint or concurrent negligence, error or omission to the extent that said liability, claims, suits, losses, damages, attorney's fees or causes of action arise out of or in connection with ENGINEER'S performance of this CONTRACT.

It is specifically understood and agreed by ENGINEER that such indemnity by ENGINEER includes indemnity by ENGINEER to indemnify, hold harmless, and protect RWRD from any and all liability, claims, suits, losses, damages, or causes of action due to ENGINEER'S wrongful intentional conduct, negligence, error or omission, including any and all claims, demands, or causes of action of whatever nature resulting from activities on land owned by others.

ARTICLE XV

NOTICES

All notices and communications under this CONTRACT to be delivered to RWRD shall be sent to the address of RWRD as follows, unless and until ENGINEER is otherwise notified:

Riverbend Water Resources District
228 Texas Avenue, Suite A
New Boston, Texas 75570

Attention: Elizabeth A. Fazio Hale, J.D., LL.M.
Executive Director/CEO

All notices and communications under this CONTRACT to be delivered to ENGINEER shall be sent to the address of ENGINEER as follows, unless and until RWRD is otherwise notified:

Susan Roth Consulting, LLC
4111 Tablerock Drive
Austin, TX 78731

ARTICLE XVI

INDEPENDENT CONTRACTOR

The services performed hereunder by ENGINEER shall be subject to RWRD's inspection and approval, but the detailed manner and method of doing said services shall be under the control of the ENGINEER. In the performance of services hereunder, ENGINEER shall be deemed an independent contractor, and any of its employees performing services required hereunder shall be deemed solely employees of ENGINEER or its subcontractor, and not employees of RWRD.

ARTICLE XVII

SUBCONTRACTORS

In fulfilling its duties pursuant to this CONTRACT, it is anticipated that the ENGINEER may subcontract to individuals, corporations, organizations, governments or governmental subdivisions or agencies, partnerships, associations, or other legal entities. The ENGINEER will subcontract to the Austin and Dripping Springs offices of Carollo Engineers, Inc. and David Meesey Water, LLC, respectively.

RWRD encourages equal opportunity to historically underutilized business enterprises, and recognizes that the ENGINEER is a qualified historically underutilized business enterprise, including being a female-owned business.

ARTICLE XVIII

PRIOR CONTRACTS SUPERSEDED

This CONTRACT constitutes the sole and only CONTRACT of the parties hereto and supersedes any prior understanding or oral or written agreements between the parties regarding the subject matter of this CONTRACT, and any and all changes, modifications or alterations of this CONTRACT must be in writing and approved by both RWRD and ENGINEER.

ENGINEER releases and waives any and all causes of action of whatever nature, or any other legal theory arising out of any prior understanding or oral or written Agreements between the parties, or any subsequent oral understanding or Agreements between the parties, regarding the subject matter of this CONTRACT, from any and all liability damages of any kind known or unknown, whether in contract or tort.

ARTICLE XIX

LEGAL CONSTRUCTION

In case any one or more of the provisions contained in this CONTRACT shall be for any reason held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision hereof and this CONTRACT shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein. The validity of this CONTRACT and of any of its terms or provisions, as well as the rights and duties hereunder, shall be governed by the laws of the State of Texas.

Nothing in this CONTRACT is intended to waive any governmental immunity available to RWRD under Texas law or waive any defenses of ENGINEER or RWRD under Texas law. This CONTRACT shall not be construed for the benefit of any third party, nor does it create or grant any right or cause of action in favor of any third party against RWRD or ENGINEER.

ARTICLE XX

REPRESENTATIONS

ENGINEER represents that no officer, employee, or agent of RWRD has sought or received compensation in any way with respect to the consideration or execution of this CONTRACT, and in no event will ENGINEER pay a fee to, or in any other manner compensate

RWRD officers, employees, or agents in connection with the approval or performance of this CONTRACT. ENGINEER expressly warrants and represents that no promise or agreement which is not herein expressed has been made to ENGINEER in executing this CONTRACT and ENGINEER is not relying upon any such statement or representation of RWRD, its officers, agents or employees in entering into this CONTRACT.

ARTICLE XXI

TERM OF CONTRACT AND TIME OF PERFORMANCE

This CONTRACT shall be effective the 21 day of July, 2016, and ENGINEER shall complete ENGINEERING SERVICES as outlined in Scope of Work for RWRD and that all work will be satisfactorily completed by December 2017, unless otherwise agreed to in writing by both parties (Phase I).

This CONTRACT shall continue in full force and effect until **all services are deemed completed by RWRD.** RWRD may, on its own determination, extend the term of this CONTRACT by written agreement with ENGINEER. All payments and liabilities accrued prior to termination shall survive the termination.

IN WITNESS WHEREOF, the parties acting under authority of their respective governing bodies have caused this CONTRACT to be executed in several counterparts, each of which is deemed to be an original, as of the day and date first written above.

SUSAN ROTH CONSULTING, LLC

SUSAN K. ROTH, P.E., PMP
President

RIVERBEND WATER RESOURCES DISTRICT

ELIZABETH A. FAZIO HALE, J.D., LL.M.
Executive Director/CEO

ATTEST:

Professional Engineering Services
for
Riverbend Water Resources District
Regional Water Master Plan, Funding & Future Water Supply Assessment

Riverbend Water Resources District (RWRD) was created by the Texas Legislature in 2009 to conserve and develop water resources in order to control, store, preserve and distribute water to their Member Entities. RWRD currently serves the following fifteen entities: Cities of Annona, Atlanta, Avery, De Kalb, Hooks, Leary, Maud, Nash, New Boston, Redwater, Texarkana (Texas), Wake Village; TexAmericas Center; Bowie, Cass and Red River Counties. Also, RWRD has signed MOUs (Memorandum of Understanding) with Southwest Arkansas Water District to work in cooperation regarding various water issues.

Planning for regional water distribution and treatment facilities creates the necessary roadmap in order to provide a reliable and safe water supply, system redundancy, as well as efficient sharing of resources. The population in the study area has increased significantly in the past 10 years. Water quality and water reliability are the primary issues in providing for a long-term water supply for the newly acquired wet utilities by RWRD.

The proposed project outlined in this Scope of Work (SOW) is organized in a manner to allow RWRD flexibility in prioritizing the planning tasks according to the total budget available from RWRD and TWDB. This project will build upon available information and data from previous planning activities, but will also incorporate a more focused evaluation of existing water supplies and infrastructure alternatives available to RWRD. In addition, this project will provide a detailed evaluation of present and future water supply and needs along with a defensible approach for RWRD moving forward. As a separate memorandum, financing alternatives, including grants and low-interest loans, will be summarized for RWRD's consideration to implement various infrastructure recommendations from the study.

The project will be performed in three phases: (1) the first phase consisting of the primary water master plan efforts on a regional basis, including an assessment of existing infrastructure and current/future supply and demand; (2) the second phase focusing on infrastructure funding applications for grants and low-interest loans; and, (3) the third phase consisting of assessing the quality and quantity of water supplies available to meet the future needs of the region's population growth, industry and economic development. The scope of services below builds upon previous efforts from RWRD and will result in an implementation plan to address both short-term and long-term regional objectives. The structure of the scope also corresponds with the TWDB suggested planning outline in order to produce a successful end product and to be well-positioned for future funding requests and amendments to the current and future *TWDB Region D Water Plan*.

Phase 1 – Regional Water Master Plan Development

The master planning efforts would allow the project participants to evaluate the feasibility of developing a regional water system to replace and/or supplement the multiple systems currently in service; investigate in more detail the water management strategies in the *2016 TWDB Region D Water Plan* as they apply to RWRD; and evaluate various treatment options/existing facilities to provide a cost-effective reliable water supply (raw and potable) to municipal and private customers.

Task 1: Project Management

The Roth team, comprised of Susan Roth Consulting, Carollo Engineers and David Meesey Water, will be using well-defined, project management and delivery tools to ensure that the final master plan is delivered on time, within the budget and to the required level of quality.

Throughout the project, regular status meetings will be conducted with the Roth team and RWRD to discuss work accomplished in the previous month(s), the plan for the coming month(s), schedule going forward, and key project issues. These status meetings will also serve as a platform to discuss deliverables and other related project issues. Similar meetings will be held within the Roth team. Specific task components include:

Task 1.1 – General Project Management Tasks

Task 1.1.1 Provide Quality Management through technical reviews and participation of the Project Advisors in workshops and other tasks as needed. The Project Advisors will provide input on source water treatment, preliminary project criteria and planning/design approach throughout the duration of the project and prior to the submittal of the draft and final reports.

Task 1.1.2 Schedule, facilitate and document project status meetings.

Task 1.1.3 Prepare the Project Management Plan (PMP) to define key parameters and guide the work of our team; the plan is discussed at the initial project team kickoff meeting and updated as needed to inform the team of new developments. Susan Roth Consulting will provide RWRD a draft PMP for review, and incorporate responses to comments from RWRD prior to issuance of a final PMP for the task order. The PMP will include:

- Scope of Work
- Team Organization and Responsibilities
- Invoicing Procedures
- Task Order Work Plan
- Baseline Schedule
- Progress Reporting Procedures
- Quality Plan
- Communications Plan
- Document Control Plan

Task 1.1.4 Establish the preferred lines of communication, tools and processes; develop Communication Plan based on this information and incorporate into the Project Work Plan.

Task 1.1.5 Coordinate with RWRD Executive Director to ensure that relevant project data and other documents are available for the project team.

Task 1.1.6 Update the Project Schedule in Microsoft Project as needed based on the timing of scheduled status meetings; The Roth team anticipates delivery of the draft project report within 15 months from notice to proceed (NTP) and submittal of the final project report within 18 months of NTP. The primary driver for this

proposed schedule is based on the 2018 TWDB funding deadlines for both SWIFT and DWSRF Programs, which are typically due in early February and March, respectively.

Task 1.2 – Project Meetings

The Roth team will conduct four public meetings and an interim workshop with RWRD, the Member Entities and other participating entities. Budgeted project meetings include the following:

Task 1.2.1 Project Kick-off Meeting. This critical meeting will not only provide an introduction to the project team, but will also establish communication protocols for the project. Additionally, the Roth team will lead a Project Quality Management (PQM) session at the workshop that will focus on identifying specific RWRD objectives and critical success factors for the project.

Task 1.2.2 Project Meeting No. 2. This public meeting will provide a forum to present and discuss the proposed population and water demand projections, as well as initial high-level scenarios for consideration. The meeting will also include an interactive working session to allow those in attendance the opportunity to select their top three alternatives to be considered for further investigation and to provide additional feedback.

Task 1.2.3 Project Meeting No. 3. During this public meeting, the preliminary cost analysis and evaluation of final alternatives for regional distribution and treatment will be presented.

Task 1.2.4 Interim Workshop. As a follow up to Project Meeting No. 3, this interim workshop will allow RWRD and the Member Entities an opportunity to further discuss the detailed cost analysis of final alternatives selected.

Task 1.2.5 Project Meeting No. 4. During this public meeting, the initial draft report is presented to RWRD and the Member Entities, providing an opportunity to address review comments prior to finalizing the report.

Task 1.3 – Stakeholder Coordination

Early stakeholder involvement is critical to the success of a project. The focus of this task is to identify key project stakeholders to participate in the process, receive community input on potential plant improvements and develop a program to address the interests of the primary stakeholder groups. The Roth team will support RWRD in community relations that will consist of coordinating and participating in public meetings (Task 1.2), preparing communications materials for public distribution, and other coordination tasks.

Task 2: Data Collection

The purpose of this task is to identify the potential customer base and outline any project constraints. This step also involves collecting water system data and population/water demand information. A data request handout is provided during the Project Kick-off Meeting to RWRD, the Member Entities and other participating entities. The Roth team will work closely with the

RWRD Executive Director for assistance with collecting the requested information from the Member Entities.

Recent literature will be acquired and reviewed as part of this task; this information will be integrated into the remaining project tasks. Temporal and spatial relationships will be developed to highlight where and when demands are projected to occur in the service area through 2070.

Task 2.1 – Population and Water Demand Projections

The next step in developing the regional water master plan involves developing population and water demand projections for each participating Member Entity in the study area. Population and water demand projections (average day and max day demands) will be developed based on the data collected, starting in 2010 (Census data) for each entity and proposed development in five-year increments through a 60-year planning horizon (2070). The study will also examine the potential effects of the proposed growth in the study area, including the impact on existing infrastructure. The Roth team will also develop historical and future per capita water use and water demand forecast based on population.

The projected populations will be compared to TWDB's latest approved population projections for Region D, which will be available during early Fall 2016. Any difference between the developed population projections and TWDB population projections will be noted. The Roth team will then meet with TWDB to address any discrepancies or revisions of data shown in the *2016 TWDB Region D Water Plan* if needed.

Task 3: Existing Water Infrastructure Assessment

The purpose of this task will be to conduct an assessment of the New Boston Road, Millwood, and International Paper Water Treatment Plants (WTPs) to identify process expansions/upgrades and/or repairs/replacements needed to meet projected demands through 2070 as developed in Task 2.1. Historical information and reports gathered in Task 2 will be used to the extent possible for a desktop assessment, supplemented by in-person field visit(s) by select members of the Roth team.

Task 3.1 – Millwood Water Treatment Plant Assessment

Task 3.1.1 WTP Site Investigation

A high-level condition assessment of the Millwood WTP will be conducted by a multi-discipline team (i.e. civil, mechanical, electrical, instrumentation and control, structural) which will focus on the following 8 areas:

1. Raw water intake, including pumping facilities and the canal system, as well as associated security apparatus
2. Chemical addition and coagulation
3. Solids separation
4. Filtration
5. Disinfection
6. Water treatment plant high-service pump station
7. Chemical storage and feed
8. Balance of plant

Members of the Roth team shall conduct a site visit of the existing WTP and ancillary facilities (e.g. intake structure) to develop additional information

needed for the assessment. A high-level condition assessment of the structures and equipment based on visual observations will be conducted during the site visit.

During the site visit, members of the Roth team will also interview operations staff and discuss maintenance efforts, operational preferences, areas of concern, and desired upgrades or improvements to the treatment facilities.

Task 3.1.2 Proposed WTP Improvements

The Roth team will identify water treatment process improvements, expansion requirements, and operational changes to meet projected water demands. In addition, the Roth team will identify state and federal regulatory/permitting requirements and emerging issues in a planning context with respect to the Millwood WTP, raw water supplies and conveyance. This task will utilize information gathered in Task 2 and the projected water demands through the 2070 planning horizon from Task 2.1. The result of this task will also provide an evaluation as to the life expectancy of the treatment plant.

Task 3.2 – New Boston Road Water Treatment Plant Assessment

Task 3.2.1 WTP Site Investigation

A high-level condition assessment of the New Boston Road WTP will be conducted by a multi-discipline team (i.e. civil, mechanical, electrical, instrumentation and control, structural) which will focus on the following 8 areas:

1. Raw water intake, including pumping facilities and associated security apparatus
2. Chemical addition and coagulation
3. Solids separation
4. Filtration
5. Disinfection
6. Water treatment plant high-service pump station
7. Chemical storage and feed
8. Balance of plant

Members of the Roth team shall conduct a site visit of the existing WTP and ancillary facilities (e.g. intake structure) to develop additional information needed for the assessment. A high-level condition assessment of the structures and equipment based on visual observations will be conducted during the site visit.

During the site visit, members of the Roth team will also interview operations staff and discuss maintenance efforts, operational preferences, areas of concern, and desired upgrades or improvements to the treatment facilities.

Task 3.2.2 Proposed WTP Improvements

The Roth team will identify water treatment process improvements, expansion requirements, and operational changes to meet projected water demands. In addition, the Roth team will identify state and federal regulatory/permitting

requirements and emerging issues in a planning context with respect to the New Boston Road WTP, raw water supplies and conveyance. This task will utilize information gathered in Task 2 and the projected water demands through the 2070 planning horizon from Task 2.1. The result of this task will also provide an evaluation as to the life expectancy of the treatment plant.

Task 3.3 – International Paper Water Treatment Plant Assessment

Task 3.3.1 WTP Site Investigation

A high-level condition assessment of the International Paper WTP will be conducted by a multi-discipline team (i.e. civil, mechanical, electrical, Instrumentation and control, structural) which will focus on the following 8 areas:

1. Raw water intake, including pumping facilities and associated security apparatus
2. Chemical addition and coagulation
3. Solids separation
4. Filtration
5. Disinfection
6. Water treatment plant high-service pump station
7. Chemical storage and feed
8. Balance of plant

Members of the Roth team shall also conduct a site visit of the existing WTP and ancillary facilities (e.g. intake structure) to develop additional information needed for the assessment. A high-level condition assessment of the structures and equipment based on visual observations will be conducted during the site visit.

During the site visit, members of the Roth team will also interview operations staff and discuss maintenance efforts, operational preferences, areas of concern, and desired upgrades or improvements to the treatment facilities and transmission piping.

Task 3.3.2 Proposed WTP and Ancillary Facilities Improvements

The Roth team will identify water treatment process improvements, expansion requirements, and operational changes to meet projected water demands for the WTP, raw water intake, and pumping facilities. The Roth team will also perform a capacity analysis on the raw and potable water transmission pipelines to meet projected water demands. In addition, the Roth team will identify state and federal regulatory/permitting requirements and emerging issues in a planning context with respect to the International Paper WTP, raw water supplies and conveyance. This task will utilize information gathered in Task 2 and the projected water demands through the 2070 planning horizon from Task 2.1. The result of this task will also provide an evaluation as to the life expectancy of the treatment plant.

Task 4: Existing Water Supply Assessment

Due to the sedimentation concerns in Lake Wright Patman, the RWRD might be deficient in water supply to their Texas customers if no changes are made to the operation of Lake Wright Patman and/or if water from Lake Millwood is considered unavailable. The amount of water needed by RWRD is directly related to the population served and industry demands. The purpose of this task will be to conduct an assessment of the current water availability from Lake Millwood and Lake Wright Patman.

Task 4.1 - Lake Millwood Water Supply Assessment

The purpose of this task is to build upon previous work conducted by RWRD and to identify the viability of Lake Millwood as a reliable water resource currently for the regional water user groups and for use by other potential corporate or water user entities.

In coordination with RWRD, the Roth team will develop up to five (5) water demand operations scenarios for the local region to evaluate available water supply under current conditions, using the following variables:

- Historical hydrology;
- Existing reservoir capacity;
- Existing water demands;
- Existing flood control rules;
- Existing recreation operating rules;
- Existing downstream release requirements; and,
- Operational considerations of the lake and intake canal related to invasive species.

The Roth team will use technical tools provided by USACE, or develop a tool if a USACE tool is unavailable, to perform water supply simulations to estimate available water supplies under current conditions, and perform sensitivity runs for potential changes in key variables. The Roth team will prepare a summary of water supply availability from Lake Millwood under existing conditions. A simplified WAM may be developed in order to represent projected Lake Millwood firm supply in a context acceptable to Texas planning considerations.

Task 4.2 - Lake Wright Patman Water Supply Assessment

Building upon previous work conducted by RWRD and data provided by the Sulphur River Basin Authority (SRBA), the Roth team will identify the viability of Lake Wright Patman as a reliable water resource for regional water user groups and for use by other potential corporate or water user entities. The Roth team will also evaluate and quantify the availability of the firm supply from Lake Wright Patman. This task will involve utilizing existing studies, as well as coordinating with TWDB, Region D Water Planning Group and RWRD. In addition, Phase 3 will need to be initiated concurrently with this task.

Task 4.3 – Current Water Supply Summary

The Roth team will prepare a summary describing the past and existing water supplies available from Lake Millwood and requirements to provide continuous delivery of raw and treated water supplies. The availability of water supplies from Lake Wright Patman will also be included in the summary. The following key information will be presented:

1. History of Lake Millwood and Lake Wright Patman

2. Corps of Engineers Data, Status and Costs for Lake Millwood and Lake Wright Patman
3. Storage and Water Rights (in planning context) for Lake Millwood and Lake Wright Patman
4. Existing Lake Conditions for Lake Millwood and Lake Wright Patman
    a. Impoundment Criteria and Average Lake Depth
    b. Sedimentation Impacts
    c. Invasive Species Impacts
        i. Weeds
        ii. Mussels
        iii. Other
    d. Potential for Enlargement
5. Modeled Firm Yield Calculations for Lake Millwood and Lake Wright Patman
    a. Original
    b. Current
6. Relevant Local, state, federal laws or water contracts for Lake Millwood and Lake Wright Patman

Task 5: Raw Water and Distribution Alternatives

The Roth team will identify a number of recommendations regarding distribution system alternatives to serve existing and future growth and interconnections of areas. Although as many as 12 to 15 high-level regional alternatives and various scenarios might be presented for consideration at Project Meeting No. 2, a maximum of five final treatment/supply/distribution alternatives will be fully developed (i.e. infrastructure sizing, cost estimates, etc.) for connecting existing water customers into an overall regional water system within the study area.

Regional distribution system alternatives will include conventional gravity and/or pressure systems. System storage requirements and pumping scenarios will be identified for potential regional distribution alternatives. RWRD and the other participants will be involved in the proposed layout of a regional distribution system to serve existing and proposed developments.

Raw water facilities will also be evaluated, in terms of existing studies and information developed through a review of the facilities, as noted in Tasks 3.1-3.3 and 4.1-4.2. For example, a significant concern at Lake Wright Patman is the current functionality of the raw water intake; under low-flow conditions, the pipeline accumulates debris, resulting in a lower capacity than desired. This information will be incorporated into the development of alternative scenarios and recommended approaches for the regional system.

Task 6: Treatment System Alternatives

Based on data received from the participating entities, a review of the existing water treatment facilities within the study area will be examined (as noted in Tasks 3.1-3.3) and evaluated for the potential of expandability and regional operations. Treatment system alternatives would include, but not be limited to: single regional treatment facility and multiple treatment facilities.

This portion of the study will also focus on the needs and interests of the participating entities regarding water service. The study will identify system acquisition opportunities for existing water systems to expand their service, opportunities for existing water systems to extend

wholesale or retail service to other communities/developments and solutions for existing water systems or aging infrastructure that need to be decommissioned.

The Roth team will identify a number of recommendations regarding treatment system alternatives to serve existing/future growth and interconnections of areas. Although as many as 12 to 15 high-level regional alternatives and various scenarios might be presented for consideration at Project Meeting No. 2, a maximum of five final treatment/supply/distribution alternatives will be fully developed (i.e. infrastructure sizing, cost estimates, etc.) for connecting existing water customers into an overall regional water system within the study area.

Task 7: Operational Alternatives

The study will examine potential operational alternatives for each of the regional treatment facility options selected for evaluation. These operational alternatives will include the operation of existing treatment facilities as an independent facility, as a regional system and as multiple independent regional facilities.

Task 8: Implementation Schedule

An implementation plan will be developed for the phased construction of distribution and treatment facilities for the study area over a 60-year planning horizon from 2010 through 2070. The implementation plan will take into consideration existing system capacities, water quality issues, redundancy needs, existing infrastructure shortfalls, future developments, anticipated growth, and future annexation plans. The development of the implementation schedule will be based on trigger points, such as population growth, water supply needs and available treatment capacity.

Task 9: Cost Estimates and Recommendations

Each regional alternative will be evaluated on a net present worth basis and on a financial basis. The net present worth analysis will be used to indicate which regional alternative is the most economical over the life of the project, typically 20 years. The financial analysis will be used to determine which regional alternative is the least expensive using the financing and O&M costs. The capital and O&M costs for the final regional distribution and treatment alternatives will be estimated separately and presented in a phased implementation approach.

Task 10: Water Conservation and Drought Management Plans

The Roth team will review the Water Conservation and Drought Management Plans for the study area and include copies in the appendix of the draft and final report. A regional water system would be committed to water conservation and protecting water quality in the area.

Task 11: Reports

This report is essentially a summation of all Phase 1 efforts; the results of the study will be summarized initially in a draft report for the participants to review/comment. Electronic copies along with six (6) hard copies of the draft report will be submitted to RWRD for review and comment. The fourth and last project meeting will be scheduled with RWRD and the participants for the Roth team to present the draft report.

Upon the written receipt of comments from RWRD and the Member Entities, the draft report will be revised and final versions submitted to RWRD. The final report will present all findings, maps and technical analyses of the tasks noted above. Electronic copies along with twelve (12) hard copies of the final report will be submitted to RWRD.

The result of the planning phase will be a master plan document that will document the long term goals and guiding principles for RWRD, establish a long-term diversified plan for the facility, recommend short-term and mid-term steps to move toward the long-term goals, and include an implementation plan for schedule and financial planning purposes.

Phase 2 – TWDB Coordination & Funding Assistance

Over the past few years, a variety of new funding programs have been implemented for a number of governmental agencies. Under this task, Susan Roth Consulting will explore these funding opportunities for RWRD's needs, focusing on grant programs and low-interest loans. Specific efforts include:

Task 1: Identify and Summarize Potential Funding Programs

Susan Roth Consulting will research local, state and federal programs to identify potential funding opportunities for the types of infrastructure improvements recommended for RWRD. This investigation will include a matrix highlighting eligibility requirements, submittal deadlines and expected allocation schedules. The matrix will also indicate which funding mechanisms may be best suited for projects RWRD may be considering.

Susan Roth Consulting will also prepare a draft technical memorandum (TM) summarizing the potential funding opportunities for RWRD's review and comment. The draft will be submitted to RWRD electronically. Upon the written receipt of comments from RWRD, the draft TM will be revised and a final version included in the Appendix of the Final Report.

Task 2: Prepare Funding Applications

Based on the funding opportunities identified, Susan Roth Consulting will prepare and submit required initial applications for up to four (4) of those programs.

Task 3: TWDB Coordination

Susan Roth Consulting will provide support with items pertaining to TWDB, including RWRD's current financing through the TWDB D-Fund Program, revisions to Region D population projections and future funding applications (i.e. pre-application meetings).

Phase 3 – Future Water Supply Evaluation

Based on the TWDB's interest and request, the Roth team proposes a third phase of this project in order to conduct an assessment of the future water availability and water quality from Lake Millwood and Lake Wright Patman. Due to budget constraints for the RWRD Regional Master Plan Project, Susan Roth Consulting will present a request for TWDB Research and Planning Funds for Special Studies at an upcoming TWDB Region D Water Meeting. The format and deliverables will be further defined based on the funding requirements from TWDB. The tasks presented below will be further refined depending on the availability of funding from TWDB and the budget allocated for Phase 3.

Task 1: Lake Millwood Water Supply Assessment

The purpose of this task is to build upon previous work conducted by RWRD and to identify the viability of Lake Millwood as a reliable water resource for regional water user groups through 2070 and for use by other potential corporate or water user entities.

In coordination with RWRD, the Roth team will develop up to five (5) water demand operations scenarios for the local region to evaluate available water supply under future conditions, using the following variables:

- Historical hydrology;
- Projected reservoir capacity in 2070 with no mitigation for continued sedimentation;
- Projected future water demands through the 2070 planning horizon;
- Existing flood control rules;
- Existing recreation operating rules;
- Existing downstream release requirements; and,
- Operational considerations of the lake and intake canal related to invasive species.

The Roth team will use technical tools provided by USACE, or develop a tool if a USACE tool is unavailable, to perform water supply simulations to estimate available water supplies under future conditions, and perform sensitivity runs for potential changes in key variables. The Roth team will prepare a summary of water supply availability from Lake Millwood under future conditions. A simplified WAM may be developed in order to represent projected Lake Millwood firm supply in a context acceptable to Texas planning considerations.

Task 2: Lake Wright Patman Water Supply Assessment

Building upon previous work conducted by RWRD and data provided by the Sulphur River Basin Authority (SRBA), the Roth team will identify the viability of Lake Wright Patman as a reliable water resource for regional water user groups and for use by other potential corporate or water user entities for the planning period. The Roth team will also evaluate and quantify the availability of the firm supply from Lake Wright Patman. This task will require verifying if a new drought of record has been established by updating the WAM from 1996 through 2014. This task will involve utilizing existing studies, as well as coordinating with TWDB, Region D Water Planning Group and RWRD.

Task 3: Future Water Supply Summary

The Roth team will prepare a summary describing the future water supplies available from Lake Millwood and requirements to provide continuous delivery of raw and treated water supplies. The availability of water supplies from Lake Wright Patman will also be included in the summary. The following key information will be presented (*note information obtained from 'Current Water Supply Summary" in Phase 1, Task 4.3):

1. History of Lake Millwood and Lake Wright Patman*
2. Corps of Engineers Data, Status and Costs for Lake Millwood and Lake Wright Patman*
3. Storage and Water Rights (in planning context) for Lake Millwood and Lake Wright Patman*
4. Projected Lake Conditions for Lake Millwood and Lake Wright Patman
    a. Impoundment Criteria and Average Lake Depth*

b. Sedimentation Impacts*
c. Invasive Species Impacts*
    i. Weeds
    ii. Mussels
    iii. Other
d. Potential for Enlargement

5. Modeled Firm Yield Calculations for Lake Millwood and Lake Wright Patman

    a. Original*
    b. Current*
    c. Projected under unmitigated "impacts"

6. Relevant Local, state, federal laws or water contracts for Lake Millwood and Lake Wright Patman*

Task 4: Water Quality Assessment

Task 4.1 – Source Water Quality Characterization

The Roth team shall review information provided under Phase 1-Task 2 and from interviews with the Texarkana Water Utilities (TWU) and Southwest Arkansas Water District's (SWAWD) operations staff to characterize the raw water quality for Lake Millwood and Lake Wright Patman. The Roth team will also collect three (16 fl oz) raw water samples per quarter from Lake Millwood and Lake Wright Patman over a one-year period during 2016-2017 to capture seasonal changes in water quality and conduct limited jar testing to assess treatability. The jar testing activities would be conducted to characterize both the raw water and settled water parameters (turbidity, alkalinity, pH, TOC, DOC, UV, THMFP, etc.). This information shall be utilized to categorize source water quality and analyze seasonal fluctuations in raw water quality. Low alkalinity, high turbidity and seasonally high organic levels affect treatment recommendations. Source water information will be analyzed to quantify major contaminants to be removed during the treatment process and anticipate behavioral patterns of the lakes and reservoirs throughout the year.

Task 4.2 – Treated Water Quality Characterization

The Roth team shall review current potable water quality characteristics from Lake Millwood and Lake Wright Patman. This information, along with information gathered from interviews with operations staff, will be used to help determine the long-term feasibility of continued operations at the WTPs in light of growing populations and changing regulations. The Roth team will make recommendations on possible technological modifications to assist in improving long-term water quality characteristics if any shortfalls are discovered.

Riverbend Water Resources District - Water Master Plan Study (Phase 1 & 2)
Roth Team - Detailed Fee Estimate

		Hours							Budget						
Task	Description	Susan Roth	David Meesey	Senior Professional	Project Professional	Professional	Assistant Professional	Admin	Susan Roth	David Meesey	Senior Professional	Project Professional	Professional	Assistant Professional	Admin
1	Project Management, Meetings, Stakeholder Coord., QA/QC	225	66	3	40	4	0	0	$ 36,000.00	$ 7,920.00	$ 807.00	$ 9,160.00	$ 784.00	$ -	$ -
2	Data Collection Review/Compile, Population & Water Demand Projections	280	27	0	8	0	8	10	$ 44,800.00	$ 3,240.00	$ -	$ 1,832.00	$ -	$ 1,256.00	$ 1,050.00
3	Existing Water Infrastructure Assessment	60	0	40	40	40	0	20	$ 9,600.00	$ -	$ 10,760.00	$ 9,160.00	$ 7,840.00	$ -	$ 2,100.00
4	Existing Water Supply Assessment	48	0	12	80	0	60	20	$ 7,680.00	$ -	$ 3,228.00	$ 18,320.00	$ -	$ 9,420.00	$ 2,100.00
5	Raw Water and Distribution Alternatives	90	0	0	60	40	0	20	$ 14,400.00	$ -	$ -	$ 13,740.00	$ 7,840.00	$ -	$ 2,100.00
6	Treatment System Alternatives	90	0	0	24	90	0	10	$ 14,400.00	$ -	$ -	$ 5,496.00	$ 17,640.00	$ -	$ 1,050.00
7	Operational Alternatives	80	0	8	8	30	0	8	$ 12,800.00	$ -	$ 2,152.00	$ 1,832.00	$ 5,880.00	$ -	$ 840.00
8	Implementation Schedule	80	0	0	14	30	0	8	$ 12,800.00	$ -	$ -	$ 3,206.00	$ 5,880.00	$ -	$ 840.00
9	Cost Estimates and Recommendations	48	24	8	60	24	0	10	$ 7,680.00	$ 2,880.00	$ 2,152.00	$ 13,740.00	$ 4,704.00	$ -	$ 1,050.00
10	Water Conservation and Drought Management Plans	60	0	0	0	0	0	0	$ 9,600.00	$ -	$ -	$ -	$ -	$ -	$ -
11	Reports (Status, Draft, Final)	190	50	0	52	0	0	20	$ 30,400.00	$ 6,000.00	$ -	$ 11,908.00	$ -	$ -	$ 2,100.00
SUBTOTALS (PHASE 1)		1251	167	71	386	258	68	126	$ 200,160.00	$ 20,040.00	$ 19,099.00	$ 88,394.00	$ 50,568.00	$ 10,676.00	$ 13,230.00
1	Identify and Summarize Potential Funding Programs	56							$ 8,960.00						
2	Prepare Funding Applications	200							$ 34,640.00						
3	TWDB Coordination	40							$ 6,400.00						
SUBTOTALS (PHASE 2)		296	0	0	0	0	0	$ -	$ 50,000.00	$ -	$ -	$ -	$ -	$ -	$ -

LABOR BUDGET (Ph. 1)	**$ 402,167.00**
LABOR BUDGET (Ph. 2)	**$ 50,000.00**
EXPENSES & TRAVEL (Ph. 1)	**$ 17,833.00**
TOTAL BUDGET	**$ 470,000.00**

Team Members	Labor Category	Hours	Rate
Susan Roth	President, Susan Roth Consulting	1547	$ 160.00
David Meesey	President, David Meesey Water	167	$ 120.00
David Harkins	Senior Professional, Carollo	10	$ 269.00
Tony Smith	Project Professional, Carollo	282	$ 229.00
Jeff Stovall	Project Professional, Carollo	32	$ 229.00
Steve Frost	Project Professional, Carollo	32	$ 229.00
Phillip Bullock	Assistant Professional, Carollo	68	$ 157.00
Darryl Corbin	Senior Professional, Carollo	61	$ 269.00
Robb Grantham	Project Professional, Carollo	40	$ 229.00
Greg Pope	Professional, Carollo	258	$ 196.00
Carollo Admin	Admin/DP, Carollo	126	$ 105.00