CAUSE NO. D-1-GV-09-002065

STATE OF TEXAS, Plaintiff,	§ §	IN THE DISTRICT COURT OF
	§	
VS.	§	
	§	TRAVIS COUNTY, TEXAS
KATHIE BRYANT, dba BUENA VISTA WATER SYSTEM, Defendant.	§ § §	250th JUDICIAL DISTRICT

RECEIVER'S STATUS REPORT FOR
BUENA VISTA WATER SYSTEM
BURNET COUNTY, TEXAS

January 31, 2012

COMES NOW, JOHN M. FULTZ, duly appointed Receiver for Buena Vista Water System (the "Water System"), and files this Receiver's Status Report pursuant to the terms of the Agreed Order Appointing Receiver signed on July 8, 2010, and respectfully reports to this Honorable Court the following, to-wit:

I. Background

1. John M. Fultz was appointed Receiver of the Buena Vista Water System owned and operated by Kathie Bryant d/b/a/ BUENA VISTA WATER SYSTEM (the "Utility") located in Burnet County, Texas, by Agreed Order Appointing Receiver signed by this Court on July 8, 2010 (the "Order").

2. The Order authorized the Receiver to take possession and control of the assets of the Utility located in Burnet County, Texas.

3. At the time the Order was entered, the Utility had approximately one hundred twenty-four (124) active connections and was identified in Texas Commission on Environmental Quality ("TCEQ") records as Public Water System (PWS) Number 0270008. The Utility operates under Certificate of Convenience and Necessity (CCN) No. 11656.

4. Numerous compliance issues existed against the Utility existed as of the date of the Order.

5. The Order appointing the Receiver authorized the Receiver to take possession and control of the assets of the Utility and set forth the principal objectives of the Receivership.

6. The Order required the Receiver to post a bond which was filed with the Court on July 16, 2010.

7. The Receiver took possession of the Utility on or about July 16, 2010.

8. The Receiver entered into a contract dated July 12, 2010, with Gulf Utility Service, Inc. (the "Operator"), to provide operational and financial services for the Utility.

9. The Order required the following:

   On or before the last day of the calendar month next following the EIGHTEENTH (18^{th}) month after the Order was signed, the Receiver shall complete and file a report that contains at a minimum the following information:

   A. The condition and location of the Utility's physical plant, including collection or distribution lines, treatment facilities, disposal facilities, meters, and other fixtures and devices used to operate the Utility;

   B. The condition and integrity of the Utility's accounting system and finances and a statement of whether Utility rates and revenues are adequate for then-current operations and for operations in compliance with TCEQ regulations;

   C. A description of any changes in Utility business accounting and bookkeeping that were implemented by the Receiver and any additional changes that the Receiver recommends for the future;

   D. A description of any repairs, replacements or improvements to the Utility's water system or changes to the Utility's operation that need to be made in order to resolve any remaining instances of non-compliance with applicable state law, including without limitation, TCEQ regulations;

   E. A description and analysis of potential options for accomplishing the goals described in Paragraph 11.D. hereof *(D above)*. Subject to limits on expenditures set forth in the Order, the Receiver was not limited as to the number or type of options that he may analyze. The options may include, without limitation, the following:

      (1) complete or partial replacement of the Utility's water system or its components, to the extent necessary to accomplish the goals in Paragraph 11.D. hereof *(D above)*;

      (2) interconnection with another public water system or treated water supplier; and,

(3) sale or transfer of the Utility to a third party, or merger with another public or private utility; and,

F. Estimated costs for each measure described Paragraph 11.4.E above *(E above)* and estimates of any revenue changes required to meet those costs.

II. Report

The following is the Receiver's Report:

A. The condition and location of the Utility's physical plant, including collection or distribution lines, treatment facilities, disposal facilities, meters, and other fixtures and devices used to operate the Utility:

Upon taking possession of the Utility's physical plant, the following was noted:

Condition of Physical Plant:

1. The general condition of the physical plant was assessed by the Operator as generally being "poor."

   a. The grounds of the physical plant required extensive clean-up, including the main plant, booster station, and ground storage tank sites.
   b. The easement for overhead power lines to the raw water pump station was overgrown.
   c. The walkway from the plant building to the sedimentation basin was dilapidated.

2. Distribution Lines: The distribution lines were generally in a fair condition which did not require any immediate action or repair. The lines are all pvc.

3. Treatment Facilities: The treatment plant needed significant improvements and upgrades.

4. Disposal Facilities: The Utility had an excess of sludge in the sedimentation basin.

5. Meters: Most meters were working, but many of the meters are older models. However, maps were not available showing the location of all meters.

6. Other Fixtures and Devices:

a. The plant electrical and control systems were found to be in need of repair and upgrading.

b. No automatic dialer system to provide notice of plant problems was present.

c. No automatic shutdown and alarm call-out for high chlorine, low chlorine, high turbidity, low sedimentation basin level and power failure was present.

d. No communication system existed between the standpipe and pump system.

Location of Physical Plant: The Utility's physical plant is located in Burnet County, Texas, approximately ten (10) miles west from the city of Burnet. The physical plant is located within the subdivision known as Buena Vista.

B. The condition and integrity of the Utility's accounting system and finances and a statement of whether Utility rates and revenues are adequate for then-current operations and for operations in compliance with TCEQ regulations:

Condition of accounting system: Upon taking over the Utility, the Receiver requested information from the Owner. The Utility was using as its billing system the software program known as RVS to account for customers, usage, and payments. The Receiver received an electronic copy of the RVS data from the Owner's bookkeeper Nancy Donnelley, the Owner's sister. The Receiver had information to the effect that the income and expenses of the Utility were being accounted for in the Owner's personal bank account. The Receiver was not provided with standard accounting practices and received no statement of profit and loss, balance sheet, or inventory of assets. The Receiver was provided copies of bills from the Owner's bookkeeper, including credit card billing in the Owner's name indicating that purchases were being made in the Owner's name and not separately accounted for in the Utility's financial system. Those records indicated that there were delinquent debts owed by the Utility to numerous vendors and service providers in the amount of $7,781.90. The Receiver paid in full those vendors and providers during the first eight (8) months of the Receivership.

Generally, the Utility's accounting system and finances would not be considered as having been maintained according to standard accounting practices and would not be acceptable in the industry. Without accurate financial records maintained separately for the Utility apart from the personal records of the Owner, the Utility's accounting system and finances make it impossible to account for the financial operation of the Utility.

Utility Rates: Upon the Receiver's taking possession of the Utility, the rates being charged were inadequate to meet the operational requirements of the Utility. Funds were not sufficient to pay the costs of repair needed to bring the Utility into compliance with the minimum standards of TCEQ. The Owner had on file with the TCEQ a pending application for rate change which had generated numerous protests from customers and which did not provide appropriate financial information to allow it to receive consideration by TCEQ.

C. A description of any changes in Utility business accounting and bookkeeping that were implemented by the Receiver and any additional changes that the Receiver recommends for the future:

The Receiver changed the Utility business and bookkeeping by employing QuickBooks accounting system which interfaces with the operating RVS system. Together these two programs provide an easily understood snapshot of the operational and financial accounting of the Utility. RVS reports reflect the number of customers billed, number of customers who pay their bill, number of deposits held on behalf of the customers, the gallons pumped and gallons billed, average gallons used, and the average bill per customer. QuickBooks provides financial reporting that is analyzed by the Receiver on a monthly basis. Reports generated by QuickBooks include the Statement of Profit & Loss, Balance Sheet, Accounts Payable Aging Report, and General Ledger and Bank Account Reconciliation. These reports should be analyzed monthly to ascertain the financial condition of the Utility. The monthly reports are submitted with the Receiver's Monthly Report filed in accordance with the Order. Annual Reports are analyzed as listed above as well. The Receiver recommends that the programs in place be maintained.

D. A description of any repairs, replacements or improvements to the Utility's water system or changes to the Utility's operation that need to be made in order to resolve any remaining instances of non-compliance with applicable state law, including without limitation, TCEQ regulations:

The repairs, replacements or improvements to the Utility's water system or changes to the Utility's operations that need to be made in order to resolve the remaining instances of non-compliance are as follows:

The remaining instances of non-compliance are:

1. 30 TAC 290.45(b)(2)(F) – Failure to provide a service pump capacity of at least 2.0 gpm per connection. 156 gpm is provided and 252 gpm is required for 126 connections.

The improvements to resolve this issue of non-compliance include:

a. Construction of a new plant facility capable of meeting the capacity requirement;

b. Construction of a pipeline to connect with the City of Burnett, Texas, to purchase water for distribution to the Utility's customers.

2. 30 TAC 290.45 (b)(2)(C) – Failure to provide a water production capacity of at least 0.6 gpm for each connection. The system has 126 connections and would need to provide 75.6 gpm and currently provides 56.25 gpm.

The improvements to resolve this issue of non-compliance include:

a. Construction of a new plant facility capable of meeting the capacity requirement;

b. Construction of a pipeline to connect with the City of Burnett, Texas, to purchase water for distribution to the Utility's customers.

3. 30 TAC 290.46(d) and (r) – Failure to maintain pressure of at least 35 psi throughout the distribution system under normal operating conditions. The pressure check at 100 Wildflower was 34 psi.

a. Install a standpipe 85 feet in height at the existing standpipe location;

b. Install booster pump and related facilities.

E. A description and analysis of potential options for accomplishing the goals described in Paragraph 11.D. hereof *(D above)*. Subject to limits on expenditures set forth in the Order, the Receiver was not limited as to the number or type of options that he may analyze. The options may include, without limitation, the following:

(1) complete or partial replacement of the Utility's water system or its components, to the extent necessary to accomplish the goals in Paragraph 11.D. hereof *(D above)*;

(2) interconnection with another public water system or treated water supplier; and,

(3) sale or transfer of the Utility to a third party, or merger with another public or private utility;

See III below.

F. Estimated costs for each measure described Paragraph 11.4.E above *(E above)* and estimates of any revenue changes required to meet those costs.

See III below.

III. Potential Options and Estimated Costs

In considering the potential options available to address the continuing TCEQ rule violations, the Receiver commissioned the Operator to seek possible solutions who prepared an Operator's Report attached hereto as Exhibit "A". In addition, the Receiver consulted with and reviewed the following: Booster Station Upgrade Opinion of Probable Cost prepared by Daniel B. Bullock, CPE, for the Utility, prepared in 2007, attached hereto as Exhibit "B"; and, Burnet-Llano County Regional Water Facility Study prepared by Susan Roth, CPE, prepared in 2011, attached hereto as Exhibit "C". The potential options and estimated costs for each are set forth as follows:

A. complete or partial replacement of the Utility's water system or its components, to the extent necessary to accomplish the goals in Paragraph 11.D. hereof *(D above)*;

Complete replacement:

1. According to Bullock's Opinion, the construction of a new plant would cost approximately $1,070,558.00, excluding cost of land and easements, in 2007 dollars.

2. According to Roth's Study, the existing plant would be decommissioned once the regional water supply was instituted. The pertinent parts of the Roth Study are attached hereto as Exhibit "C". This would be a part of a regional solution, with costs reaching $24,000,000.00.

Partial Replacement

1. According to the Operator's Report, a package plant could be acquired that would meet the capacity requirements of the Utility as follows (Violations 1 and 2):

INSTALL packaged plant system (see attached quote) inclusive of a 100 gpm SIEMENS Tri-Mite Factory Assembled Packaged Treatment System (2 units, 50 gpm each) and seek a variance from TCEQ.

a. Approximate Cost $267,000 + Pipe Install (Approx $50,000)

b. Increase distribution line size from production plant to storage tank area (currently 2", possibly increase to 4" within existing easement) – Approximate cost $100,000.00

c. Engineering: unknown

Total estimated cost: $417,000.00 (exclusive of engineering and of standpipe costs)

2. According to the Operator's Report, a new standpipe 85 feet in height would address the pressure violation. The cost to install and connect a new standpipe is estimated to be $100,000.00 and the improvements to the distribution system and additional piping is estimated to be $300,000.00, for a total of $400,000.00, exclusive of engineering (Violation 3).

3. According to Bullock's Opinion, a pressure tank and related facilities could be constructed to address the pressure violation at an estimated cost of $31,700.00 in 2007 dollars. Verbal estimates indicate the cost may be more in the neighborhood of $60,000.00. Due to the condition of the distribution system, the added pressurization may require distribution improvements as noted in the Operator's option to install a new standpipe (Violation 3).

4. Another alternative is to seek a Variance of the TCEQ Rules for service pump capacity and water production capacity for which Violations 1 and 2 have been issued as discussed in the Operator's Report. If successful, the associated costs would be nominal as compared to the other alternatives.

B. interconnection with another public water system or treated water supplier:

Construction of a pipeline to connect with the City of Burnet, Texas, to purchase water for distribution to the Utility's customers Purchase water via a piping interconnect with the City of Burnet, Texas:

1. According to the Operator's Report, the approximate cost to interconnect with the City of Burnet, assuming that the City has sufficient capacity, would be $1,000,000.00.

2. Bullock's Opinion did not address an interconnection.

3. According to Roth's Study, the cost to construct an interconnect would include not only this Utility, but also Burnet, Bertram, Buena Vista, and Cassie, and the estimate to construct such an interconnect is estimated to be over $24,000,000.00 and the cost for transmission is estimated to be $6,900,000.00. Please see the pertinent parts of her report attached as Exhibit "C" to this Report.

C. sale or transfer of the Utility to a third party, or merger with another public or private utility:

1. Sale or Transfer

The current financial condition of the Utility does not provide for sufficient income to pay the operational costs of the Utility and to construct the needed improvements to meet the outstanding violations of the minimum standards of TCEQ. Capital infusion is required to do so.

Before a sale or transfer to a third party is considered, one must first consider the ability of the current owner to raise the needed capital. If no variance could be secured, at a minimum, the package plant suggested in the Operator's Report would need to be considered together with the standpipe or booster pump installation. These costs are estimated to total approximately $817,000.00, exclusive of engineering, for a probable cost of approximately $1,000,000.00.

If the Owner can raise sufficient capital, and if rates can be increased to support the debt (principal payments and interest carry) or return on capital, the Owner may be able to retain the system. However, the rates will be increased to a point that would place a economic burden on the customers of the system.

If a third party is ready and willing to invest the capital infusion, the same outcome will result – higher rates to support the debt. An in-depth rate study is required to determine the possible costs of borrowing and the impact on the rate structure for the Utility.

If the system were transferred to a new Water Supply Corporation created for the purpose of owning and operating the system, it could possibly borrow the funds at a low interest rate from either the Texas Water Development Board of the United States Agriculture Department's Rural Utilities System over a long period of time easing the pressure to increase rates to an unbearable level on the customers.

2. Merger with another Public or Private Utility:

The Receiver has not received any interest from any other existing public or private utility in this system. The same issues exist in relation to a transfer – the needed capital infusion and the resulting effects on the rates for the water service to the Utility's customers.

Conclusion:

The customers of the Utility are resolute in their demand for a water system that meets TCEQ minimum standards. The costs related to a regional water distribution system are at this point beyond the ability of the Receiver or the Utility to contemplate. Capital must be obtained to make needed improvements, and rates must be increased to pay those costs.

Respectfully Submitted,

John M. Fultz, Receiver
P. O. Box 868
Navasota, Texas 77868
936-825-7833
936-825-2354 fax

Certificate of Service

I, John M. Fultz, Receiver, certify that a copy of the foregoing Receiver's Status Report for the Buena Vista Water System was forwarded on the 31st day of January, 2012, to the following:

Mr. Terence Webb, Receivership Coordinator
Mr. Tom Bohl, Assistant Attorney General
Mr. Keith Kebodeaux, Attorney for Kathie Bryant
Mr. Roger Borgelt, Attorney for the Buena Vista Property Owner's Association

John M. Fultz

Buena Vista Water System
Receiver's Status Report
January 31, 2012

Exhibit "A"

Operator's Report

Buena Vista Water System – PWS ID # 0270008

December 7, 2011

Buena Vista Subdivision – PWS ID # 0270008

December 7, 2011

Current rule violations (X3):

- 1) 30 TAC 290.45(b)(2)(F) ~ Failure to provide a <u>service pump capacity</u> of at least 2.0 gpm per connection. 156 gpm is provided and 252 gpm is required for 126 connections
- 2) 30 TAC 290.45 (b)(2)(C) ~ Failed to provide a <u>water production capacity</u> of at least 0.6 gpm for each connection. The system has 126 connections and would need to provide 75.6 gpm and currently provides 56.25 gpm
- 3) 30 TAC 290.46(d) and (r) ~ Failed to maintain pressure of at least 35 psi throughout the distribution system under normal operating conditions. The pressure check at 100 Wildflower was 34 psi.

<u>1st two violations:</u>

In Addressing the 1st two violations, and as discussed with TCEQ's Claudia Chaffin, Buena Vista's EXISTING Plant layout has the present pumps located PRE- filters. As a result, this pump configuration applies to BOTH violations #1 & #2 (above) that describe service pump capacity (violation #1) and water production capacity (violation #2).

System Summary:

<u>Present:</u>

Currently, Buena Vista averages 45,000 gallons/day (during peak-summer months, with a peak of 81,000 gallons/day; 56.25 gpm). The plant utilizes pressure filters and is configured to only treat/filter a maximum water flow of this peak rate (of 81,000 gallons). Furthermore, the distribution pipe from the plant to the elevated storage is only 2" – a further current limitation to any increased capacity requirements.

30 TAC 290 Subchapter D Summary that applies to the plant:

(2) Surface water supplies must meet the following requirements:
(A) a raw water pump capacity of 0.6 gpm per connection with the largest pump out of service;
(B) a treatment plant capacity of 0.6 gpm per connection under normal rated design flow;
(C) transfer pumps (where applicable) with a capacity of 0.6 gpm per connection with the largest pump out of service;

(D) a covered clearwell storage capacity at the treatment plant of 50 gallons per connection or, for systems serving more than 250 connections, 5.0% of daily plant capacity;

(E) a total storage capacity of 200 gallons per connection;

(F) a service pump capacity that provides each pump station or pressure plane with two or more pumps that have a total capacity of 2.0 gpm per connection or that have a total capacity of at least 1,000 gpm and the ability to meet peak hourly demands with the largest pump out of service, whichever is less. For systems which provide an elevated storage capacity of 200 gallons per connection, two service pumps with a minimum combined capacity of 0.6 gpm per connection are required at each pump station or pressure plane; Buena Vista currently has three (3) 10,000 gallon storage tanks providing 30,000 gallons of combined storage.

Options:

1) IMPORT water via a piping interconnect with the City of Burnet, Texas ~
   a. Approx Cost $1MM

or

2) INSTALL packaged plant system (see attached quote) inclusive of a 100 gpm SIEMENS Tri-Mite Factory assembled Packaged Treatment System (2 units, 50 gpm ea) ~
   a. Approx Cost $267,000 + Pipe Install (Approx $50,000)
   b. Increase distribution line size from production plant to storage tank area (currently 2", possibly increase to 4" within existing easement) ~ Approx cost $100,000

or

3) Request TCEQ VARIANCE, as indicated in 290.45(g)(1). And we would request the opportunity and allow for the necessary time to apply for the variance on violations #1 and #2. Historical plant data will illustrate that the plant averages 45,000 gallons/day (with a peak of 60,000 gallons/day; 42 gpm). Variance Summary for 290.45(g)(1):

   (g) Alternative capacity requirements. Public water systems may request approval to meet alternative capacity requirements in lieu of the minimum capacity requirements specified in this section. Any water system requesting to use an alternative capacity requirement must demonstrate to the satisfaction of the executive director that approving the request will not compromise the public health or result in a degradation of service or water quality. Alternative capacity requirements are unavailable for groundwater systems serving fewer than 50 connections without total storage as specified in subsection (b)(1) of this section or for noncommunity water systems as specified in subsections (c) and (d) of this section.

(1) Alternative capacity requirements for public water systems may be granted upon request to and approval by the executive director. The request to use an alternative capacity requirement must include:

(A) a detailed inventory of the major production, pressurization, and storage facilities utilized by the system;

(B) records kept by the water system that document the daily production of the system. The period reviewed shall not be less than three years. The applicant may not use a calculated peak daily demand;

(C) data acquired during the last drought period in the region, if required by the executive director;

(D) the actual number of active connections for each month during the three years of production data;

(E) description of any unusual demands on the system such as fire flows or major main breaks that will invalidate unusual peak demands experienced in the study period;

(F) any other relevant data needed to determine that the proposed alternative capacity requirement will provide at least 35 psi in the public water system except during line repair or during fire fighting when it cannot be less than 20 psi; and

(G) a copy of all data relied upon for making the proposed determination.

3rd violation:

In addressing the **3rd violation** (30 TAC 290.46(d) and (r)) ~ Failed to maintain pressure of at least 35 psi throughout the distribution system under normal operating conditions.

System Summary:

Present:

Currently, Buena Vista supplies water to approximately 126 connections. The main system storage consists of three (3) 10,000 gallon storage tanks providing 30,000 gallons of storage (~ each storage tank is approximately 20' in height) with a geographic location currently sitting on one of the system's higher plateaus. Water pressure at times can vary to levels below 35 psi

Options:

1) Install a standpipe in the existing storage area approximately 85' tall ~
   a. Approx Cost $100,000
   b. Distribution Line Upgrade Approx Cost $300,000

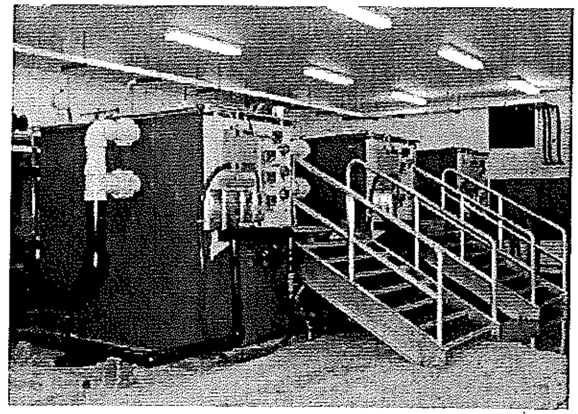
   ***** NOTE: Should standpipe be considered, there is a strong possibility that the existing booster station (on Buena Vista drive) could be elimated due to full system pressure provided by standpipe*****

SIEMENS

BUDGETARY PROPOSAL – Tri-Mite® Factory Assembled Packaged Treatment System

Project Name: City of Burnet, TX
November 11, 2011

We are proposing a Tri-Mite Factory Assembled Packaged Treatment System for this project. This system is designed as follows:



Flow Rate to System:	100 gpm
Number of Tanks:	2
Tank Length:	9 ft. 0 in.
Tank Width:	5 ft. 8 in.
Tank Height:	8 ft. 5 in.
Adsorption Clarifier Hydraulic Loading	10.0 gpm/ft^2
Filter Hydraulic Loading	5.0 gpm/ft^2
Turbidity:	______ NTU
Color:	______ cu
Other:	______ ppm

Technical Description:
The Tri-Mite Packaged Treatment System combines a unique upflow adsorption clarifier with a downflow mixed media filter bed for high rate water treatment. The adsorption clarifier includes a buoyant media for increased capture of contaminants with ease of flushing from the system. The mixed media filter combines different sized filter materials to capture decreasing sized particles through the depth of the filter bed. This package design comes from the factory completely assembled for ease of installation and provides reduced footprint and lower capital costs from conventional systems. The Tri-Mite system is capable of removing turbidity, suspended solids, color, iron, manganese, odor, taste and parasites such as Giardia lamblia and Cryptosporidium. The Aquaritrol® III automatic process controller automatically adjusts chemical feed rates to changing water quality to dose the proper amount of chemicals. All materials in contact with potable water are NSF 61 approved. The system is comes completely factory assembled for quick installation.

Key Features and Benefits

- Reduces capital costs and footprints by using high rate, packaged treatment
- Simplifies operator interface with automatic control
- Removes the bulk of contaminants in the adsorption clarifier to increase filter run time
- Optimizes chemical dosing by the Aquaritrol III automatic process controller
- Eases future expansion with modular design

The following budget pricing includes:
Painted Carbon steel tank with factory installed adsorption clarifier (AC) media, retaining screen, air distribution laterals, and influent distribution header, media retaining underdrains, 30" depth of Mixed Media, and filter washtrough, effluent turbidimeter, air wash blower, effluent and backwash pumps, electric and manual valves, control system including AQUARITROL III automatic process controller and motor starters. Items shipped loose include AC and filter media shipped and three chemical feed packages. Also includes freight and start-up

The budget price for this equipment is $267,000

Tri-Mite WEB SITE

Buena Vista Water System
Receiver's Status Report
January 31. 2012

Exhibit "B"

Engineer Daniel B. Bullock's

Booster Station Upgrade Opinion of Probable Cost

Estimated Project Budget

Water System Upgrade

and

Supporting Documentation

BUENA VISTA BOOSTER STATION UPGRADES
OPINION OF PROBABLE COST

Item	Quantity	Unit	Unit Cost	Total Cost
CONSTRUCTION COSTS				
Equipment Mobilization, Storage and Pressure Tank Pad Construction	1	ls	4,000	$4,000
Booster Pumps (3 phase/7.5 hp)	3	ea	1,200	$3,600
Storage Tank (5000 gal)	1	ea	3,500	$3,500
Pressure Tank (250 gal)	1	ea	900	$900
Plumbing	1	ls	2,000	$2,000
Ground Rods	4	ea	175	$700
*Electrical	1	ls	2,000	$2,000
**Replace 2-inch Diameter Pipe with 3-inch Diameter Pipe	100	lf	25	$2,500
Fence Section Removal and Replacement	100	lf	20	$2,000
	Subtotal:			21,200
	Engineering Design/CQA			6,500
	Subtotal:			27,700
	Contingencies (15%):			4,000
	Total Estimated Cost:			31,700

STATE OF TEXAS
DANIEL B. BULLOCK
82596
LICENSED
PROFESSIONAL ENGINEER
3/1/07

Notes/Assumptions:

**Assuming no charge from PEC to provide -phase electricity to Site

**Length to tie-in to existing 3-inch diameter water line based on owner provided distribution map

CQA - Limited Construction Quality Assurance and Oversight

ESTIMATED PROJECT BUDGET

Drinking Water (DW) State Revolving Fund (SRF)
(Costs of Proposed Project and Sources of Funds)

ITEM	DWSRF FUNDS	OTHER FUNDS (SMWBE SRF)	TOTAL FUNDS
Construction Costs			
WTP Improvements	450,000		450,000
Elevated Storage Tank	70,000		70,000
Ground Storage Tank	7,500		7,500
Distribution Lines	220,000		220,000
Transmission Lines			
Pump Station	6,000		6,000
Other (describe)			
Subtotal Construction Costs	**753,500**		**753,500**
Basic Engineering Fees			
Planning Phase		15,000	15,000
Design Phase	20,000		20,000
Construction Phase	20,000		20,000
Subtotal Basic Fees	**40,000**	**15,000**	**55,000**
Special Engineering Fees			
Environmental Information Document		4,000	4,000
Water Conservation Plan[1]		3,000	3,000
Inspection[2]	4,000		4,000
Surveying	6,000		6,000
Testing	1,000		1,000
Geotechnical	5,000		5,000
O & M Manual	1,000		1,000
Other (describe)			
Subtotal Special Fees	**17,000**	**7,000**	**24,000**
Bond Issuance Costs			
Financial Advisor			
Bond Counsel			
Bond Insurance			
Other (general attorney & cpa/finicial advisor fees)	40,000		
Subtotal Issuance Costs	**40,000**		**40,000**
Land, Easements or ROW			
Contingency[3] (20%)	**170,100**	**4,400**	**174,500**
Loan Origination Fees (2.25%)	**22,964**	**594**	**23,558**
TOTAL PROJECT COSTS[4,5]	**1,043,564**	**26,994**	**1,070,558**

[1] Not required if loan amount is less than $500,00.
[2] Required on all projects.
[3] 15% or more is recommended.
[4]Previous estimate of $845,000 revised to reflect cost increases based on updated (12/2007) supplier cost estimates.
Also includes increased facility capacity to provide service for life of loan based on current growth projections.
[5]Pre-design Funding amount : Planning Phase + EID + Water Conservation Plan = $22,000.

PRELIMINARY
(Updated 12/2007)

Buena Vista
Water System Upgrade

Description	*Item*	*Unit*	*Price per Unit*	*Principal Project Cost*
Treatment:				
*Package Plant**	1	ls	$315,000.00	$315,000
*Delivery**	1	ls	$10,000.00	$12,000
*PilotTesting***	3	months	$5,000.00	$18,000
Field Service	1	ls	$10,000.00	$12,000
Booster Pumps	5	ea.	$2,000.00	$12,000
Electrical	1	ls	$20,000.00	$24,000
Plumbing	1	ls	$12,000.00	$14,400
Water Softener	1	ls	$10,000.00	$12,000
*Bldg Const. to House New Plant**** *(includes site preparation, slab, bldg, fence, etc.) pp. 41ff, 158, 249, 5-14 (Unit Cost book)*	1	ls	$25,000.00	$25,000
		Subtotal		**$450,000**
Transmission and Distribution:****				
Includes 4 miles of distribution lines, pp. 4-63	22000	lf	$9.81	$215,820
Booster pump.	4	ea.	$1,500.00	$6,000
		Subtotal		**$221,820**
Storage				
*10,000 gal. Elevated Storage*****	1	ea.	$67,000.00	$67,000
PressureTank (250 gal)	1	ea.	$1,500.00	$1,500
5000 Gal. Storage Tank	1	ea.	$6,000.00	$6,000
		Subtotal		**$74,500**
Engineering:	1	ls	$40,000.00	$40,000
		Subtotal		**$40,000**
General, Legal, Financial:	1	ls	$40,000.00	$40,000
		Subtotal		**$40,000**
Contigency: 15%	1	ls	$123,948	$123,948
		Subtotal		**$123,948**
	TOTAL			**$950,268**
Loan Origination Fee: 2.25%	1	ls	$21,381	$21,381
			GRAND TOTAL	**$972,000**

(Package Plant $315,000: represents $275,000 for larger capacity plant, plus 14% for additional plant completion)

(Delivery through Water Softener: represents 20% increase)

reference:
**Koch Membrane Systems Proposal, 2006*
**Phone conversation with Koch representatiave, 2006
****RS Means Heavy Construction Cost Data, 2005*
*****RS Means Environmental Remediation Cost Data - Assemblies, 2005*

Buena Vista
Supporting Documentation

Description	
Treatment:	
*Package Plant**	*Koch Membrane Systems Proposal, 2006*
Delivery	Phone conversation with KOCH representative
*PilotTesting***	Phone conversation with KOCH representative
Field Service	Phone conversation with KOCH representative
Booster Pumps	See below
Electrical	240 hours per Charlie Powell (CRWA); $18,000 labor; $2000 mat.
Plumbing	$12,000 labor and material
Water Softener	Estimate $10000
*Bldg Const. to House New Plant**** *(includes site preparation, slab, bldg, fence, etc.) pp. 41ff, 158, 249, 5-14 (Unit Cost)* *Total ~$19,000*	Site Clearing - p. 41, item 02230, line 100-0250 and 0300, 0.011 acre x $13,750 = ~$200 Mob, grading, fill, demob - p. 51, item 02305, line 250-0020, ~$420; Approx. 70 cy fill material =~12 truckloads x $120/load =~$1500 Compaction and grading - p. 52, item 2310, line 100-1050 ~70 sy x $2.00 =~$150; p. 52, item 110, line 110.0900 and 1000 Slab - p.158, item 03310, line 240-1900; ~10 cy x 560 = $5600 Steel bldg - 16(W) x 24(L) x 16(H) - p.249, item 13128, line 700-0170; ~400 sf x $25 = ~$10,000 Fence - p. 5-14 (Unit Cost book), item 04-01, line 18 04 0108; ~30 ft. x $35.00 = $1050
Transmission and Distribution:**** *Includes 4 miles of distribution lines, pp. 4-63,*	4" Class 150 PVC; 21,120 lf x $6.90 = ~$146,000
Trenching, p. 348, item G1030 805, line 1310	Trenching ~22000 lf x $2.63 =~$57860
Backfill, p. 4-62, line 17 03 0420	Backfill ~1200 cy x $10.00 = ~$12,000
Booster pump	http://www.flintandwalling.com/booster.htm (see price list) $1500
Storage****	
*10,000 gal. Elevated Storage*****	p. 4-65, line 19-01-0326
PressureTank (250 gal)	Estimated
5000 Gal. Storage Tank,	(~$5,000 includes delivery)
Additional Plumbing	~$1000
	https://secure14.inno-tech.com/rainwater/store/index.php?searchkey=tank

KOCH
MEMBRANE SYSTEMS™

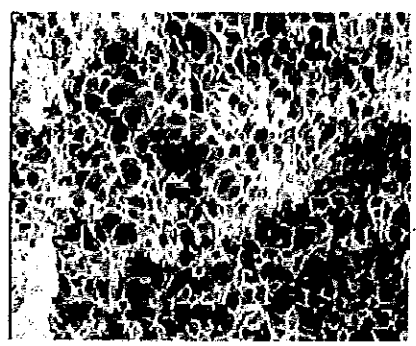
KMS Ultrafiltration Membrane & Process Description

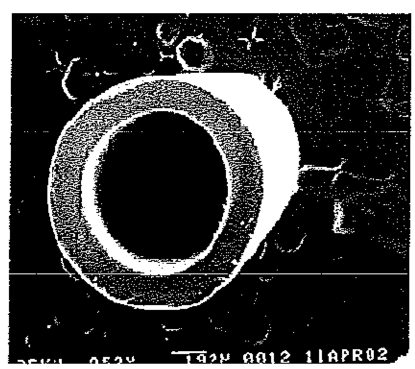
Ultrafiltration membranes serve as highly-engineered, physical barriers to particulates in water. Particulates larger than the pore size of the membrane remain on the feed side, with clean water and any particulates smaller than the pores of the membrane, passing through to the permeate side.

KMS UF cartridges are designed to filter from the inside, outward. This means that the feed water is introduced to the inside of the hollow fibers. The low pressure applied to the feed stream pushes the clean water through the membrane wall where it freely flows to distribution.

The inside-out design means that there is a well defined path for the feed stream to follow. Additionally, backflushing is more effective since the solids are flushed from the fibers using the same well defined flow-paths, minimizing the opportunity for solids to settle in any area of the cartridge.

The KMS PMPW™ ultrafiltration membrane is a polysulfone, hollow fiber, membrane with a nominal molecular weight cut-off (MWCO) of 100,000 Daltons. The PMPW™ membrane has a very tight and consistent (0.01-micron) pore construction. Due to the low MWCO of the membrane, over 99.99% of viruses and bacteria are removed. This is the highest certified removal rate of any filtration technology. Table 2 below compares the removal requirements of the Safe Drinking Water Act to the superior performance of the PMPW™ membrane.





PMPW™ Sponge Support Structure (top)

Table 2. Safe Drinking Water Act Removal Requirements

Contaminant	Requirement	KMS UF Performance*
Turbidity	<0.3 NTU	<0.1 NTU
Giardi	3 Log Removal	99.9999% Removal
Cryptosporidium	2 Log Removal	99.9999% Removal
~~Virus~~	~~4 Log Removal~~	~~99.995% Removal~~
Coliform	**	None Detected

*Based on studies conducted at the Aqua2000 Research Center under contract to Montgomery Watson and the City of San Diego
**No presence 95% of the time

The small pores in the skin of the PMPW™ membrane (0.005 – 0.01 micron) allow high process flux and stability. This effect arises because the pores in the membrane surface are so much smaller than the particulate being filtered that the particles cannot plug the pores and are easily swept away.

The PMPW™ membrane can operate over a wide pH range (1.5-13) and can tolerate strong oxidizing agents such as chlorine (200 parts per million) and peroxide (10%). A summary of membrane properties and operating parameters appear in Tables 3 and 4 below.

Table 3. PMPW™-10 Membrane & Cartridge Properties

Parameter	Performance
Membrane Module	PMPW™ 10
Membrane Technology (MF/UF)	UF
Nominal Molecular Weight Cut-Off	100,000 Daltons
Membrane Material of Construction	Polysulfone
Driving Force	Pressure
Permeate Flow Direction	Inside to Outside
Nominal Fiber ID	0.035 inches
Nominal Fiber OD	0.056 inches
Length of Fiber	6 feet
Number of Fibers per Cartridge	16,800
Method of Operation	Single Pass Recirculation optional
Cartridge Length	72 inches
Housing Outside Diameter	10.75 inches
Nominal Membrane Area (ID)	871 ft^2

Table 4. PMPW™ 10 Membrane & Cartridge Operating Parameters

Parameter	Performance
Maximum Inlet Pressure	45 psi (3 bar) at 104°F (40°C)
~~Maximum Caustic Level at 110°F~~	~~13.0 pH~~
Maximum Acid Level at 110°F	1.5 pH
Maximum Free Chlorine at 110°F	200 ppm at pH 10.5 or higher
Operating Temperature Range	33°F - 104°F
Maximum Production TMP	35 psi
Maximum Backwash TMP	30 psi

Each UF skid has two basic operating modes; Production and Cleaning.

During production mode, feed pumps move the feed water through the feed filters and on to the UF skids. The feed filters contain 200 micron stainless steel screens to remove any remaining large particles. The filters automatically backflush on a timer. Backflush water from the UF feed filters can be discarded to waste or recycled.

After the water has passed through the feed filters, the water enters the inlet valve of each skid. The water pressure is maintained at a nearly constant value by variable speed drives on the feed pumps.

Each skid can operate in either single pass (recirculation pump off) or recirculation (recirculation pump on) mode depending on the feed water source and quality. Feed water is added to the skid at the same rate as permeate and retentate leave the skid. In the single pass mode of operation, the recirculation pump remains off and the feed pressure only moves the prefiltered water across the membrane surface. Permeate and reject leave the system in the identical manner. If the system is operating in recirculation mode, the prefiltered water enters the recirculation pump. Recirculation is often beneficial with a water of very high turbidity or fouling characteristics. The additional cross-flow provided by the recirculation pump helps to remove foulants from the surface of the membrane and keep them in suspension in the retentate. Although a greater resistance to fouling is achieved, this mode requires significantly more power due to the size of the recirculation pump. Because of this, recirculation mode is used only during upsets in feed water quality or during chemical cleanings.

To remove solids filtered by the membrane, a periodic backflush is initiated. Backflush helps to maintain a stable permeate flow rate by physically removing the fouling layer from the membrane surface. The ability to complete a backflush is a unique benefit of hollow fiber membranes that allows the system to run for extended periods of time between off-line chemical cleanings. During the backflush cycle, UF permeate, which can be combined with a low concentration of a chemical (sodium hypochlorite, caustic, or citric acid), is pumped backwards through the membranes. The direction of flow changes half way through the backflush cycle. Upon completion of the flow change, the membranes rest for a short period of time. The backflush then resumes removing any chemical from the system prior to the resumption of production. A fastflush, using raw feed water, further removes material lifted off the membrane by the backflush mode.

In some plants, the direction of the feed flow is reversed in the module after execution of a backflush. The direction of flow is switched from upflow to down flow or vice versa. This enables the membrane to be utilized more uniformly by distributing the fouling layer evenly along the membrane. (Figure 1).

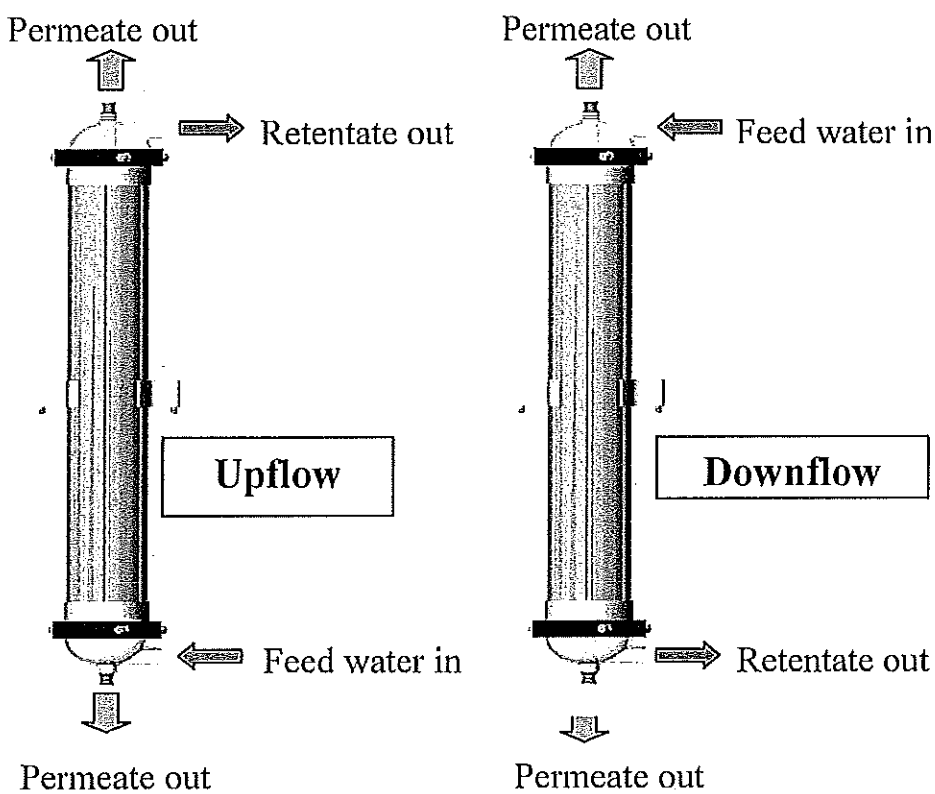


Figure 1. Flow Reversal

Approximately once per month, the UF system may require chemical cleaning. The cleaning is necessary to remove any foulants accumulated on the membrane surface which cannot be removed via physical means (ie: backflush). Typical cleaning solutions used are caustic, sodium hypochlorite (or a combination), or citric acid. Sulfuric acid is occasionally substituted for citric acid depending upon the nature of the membrane foulant.

The cleaning mode consists of chemical wash and rinse cycles. A cleaning tank and pump are used to feed chemical solutions to the skid. Chemicals are supplied to the cleaning tank via dosing pumps. Clean in Recycle is very effective in removing foulants from the surface of the membrane. Cleaning water passes into the membrane, and returns to the cleaning tank only through the retentate bleed with the cleaning permeate valve closed. This creates a number of pressure differentials across the membrane as illustrated in Figure 2. The cleaning water enters the membrane at approximately 11 psig, and will permeate through the membrane traveling to the outside of the fiber. As a result of the permeate valve being closed the pressure outside the membrane is an average of 7 psig. At the far end of the membrane the pressure inside the membrane is only 5 psig, the cleaning water will backflush back through to the inside of the membrane. This mini backflush removes foulants from the surface of the membrane.

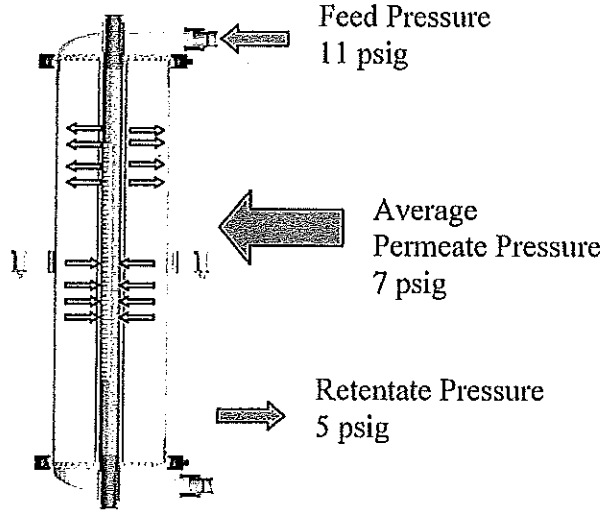


Figure 2: Clean in Recycle

Buena Vista Water System
Receiver's Status Report
January 31, 2012

Exhibit "C"

Susan Roth's Study for

Regionalization of Water

Engineer's Report of Improvements

Required to meet the Minimum Standards of TCEQ

Including estimated expenses associated with the

Improvements Required

and possible Funding Sources

Initial Draft Report

Burnet-Llano County Regional Water Facility Study

For

TWDB Regional Facility Planning Grant (Project Contract No. 100-483-1072)

July 27, 2011

Prepared by:

SUSAN ROTH
water and wastewater consulting

In association with:

CDM

Plauché International, Inc.

for Council Creek Village to $9,348 for Paradise Point. Each entity's per connection costs and estimated cost per 1000 gallons are presented below in Table 9-19.

Table 9-19: North Option 2B – Transmission Costs

Entity	Connections Served	$ / connection	Cost per 1000 gallons
Council Creek V.	170	518	$0.23
Bonanza Beach	71	1481	$0.66
S. Silver Creek	98	1,888	$0.84
Burnet MUD 2	252	2,145	$0.96
NE Lake Buchanan Developments	1188	2,145	$0.96
Paradise Point	158	9,348	$4.18

9.6.6 Northern Region Option 3: Burnet, Bertram, Buena Vista, and Cassie

In the analysis for North Option 3, the Roth Team assumed that the existing City of Burnet WTP would stay in service and be expanded to serve the City of Burnet, City of Bertram, Buena Vista Water System and Cassie Water System. Also, this option assumed that the current raw water intake location would be utilized; however, the raw water pump station and raw water pipeline would need to be expanded to accommodate the new max day demands. Additionally, we assumed that the new raw water pipeline would follow a similar profile as the existing pipeline; thus, the length of the new raw water pipeline would be approximately 1,550 ft.

Should this option be implemented, the Cassie Water System and Buena Vista Water System WTPs would be decommissioned, requiring the new system to meet a 2040 ultimate buildout max demand of 8.69 MGD and average day demand of 4.345 MGD. The initial capacity prior to any new construction would be 3.73 MGD, so in a phased approach, the additional capacity added in Phase 1 (2015) would be 0.84 MGD max, in Phase 2 (2020) would be 0.83 MGD, in Phase 3 (2025) would be 1.06 MGD, in Phase 4 (2030) would be 1.06 MGD, and in Phase 5 (2035) would be 1.17 MGD. Upgrades to the raw water pump station would also need to take place at the same timeframes to meet the same max day demands as the WTP. Table 9-7 presents the total costs for North Option 3 without distribution system transmission mains, booster pump stations and elevated storage tanks.

O&M costs for 2015 are based on the analysis outlined in Section 9.4. Maintenance and spare parts are assumed to be 10-percent of the total labor, chemical and power costs. Table 9-20 presents the O&M costs for North Option 3.

Table 9-20: North Option 3 - O&M Costs

Item	Monthly Costs ($/mo)
Labor (WTP Operator and Mechanical Maintenance Technician)	$17,900
Chemical	$8,700
Power	$18,500
Maintenance/Spare Parts	$4,600
2015 Total ($/mo)	$49,700
2015 Total ($/yr)	$596,400
Total 2011 Present Worth of O&M Costs for 2015-2040 (1)	$13,415,500

(1) Present-worth value assumes an interest rate of 3.5-percent and annual demand growth rate of 3.4%.

Labor costs include two full-time WTP operators and one full-time mechanical maintenance technician, as determined using Table 9-5. Chemical costs were calculated based on average daily flows in 2015 and average dosages presented in Table 9-6. Table 9-21 presents the estimated chemical usages for North Option 3.

Table 9-21: North Option 3 - Chemical Usages

Chemical	Monthly Usage
Alum	59 gal
NaOCl	67 gal
LAS	20 gal
Fluoride	6 gal
Polymer	3 gal
$K(MnO_4)$	16 lb

The greatest source of power consumption from a water treatment standpoint is the electricity required for pumping. Our analysis considered raw water, internal plant and finished water pumping. Table 9-22 presents the pump heads and criteria used to determine these heads for North Option 3.

Table 9-22: North Option 3 - Pumping Criteria

Pumping Type	Number of pumps	Pump Capacity (GPM)	Pump Head (ft)	Hp	Kilowatt Hours per Day	Assumptions
Raw water	Total: 3 Firm: 2	670	130	55	982	Intake EL = 860 ft WTP EL = 990 ft
Finished water	Total: 5 Firm: 4	335	580	245	4,380	WTP EL = 990 ft Storage Tank EL = 1570 ft
Internal plant			-	-	98.2	10-percent of raw water pumping

The Roth Team estimated transmission system costs for this option at $6.9 million. We assumed that the transmission mains serving the Buena Vista and Cassie areas would be constructed in the 2011 to 2015 time frame. However, the transmission main from Burnet to Bertram would not be constructed until the 2016 to 2020 time frame, and the additional 12-inch transmission main from the Burnet WTP to Burnet would not be needed until the 2026 to 2030 time frame. After calculating the participation costs for each transmission main segment, per connection costs ranged from $1,349 for the Buena Vista area to $5,129 for the City of Bertram. Each entity's per connection costs and estimated cost per 1000 gallons delivered are given in Table 9-23 below. Note: the cost shown for Burnet and Bertram do not apply to customers that can be served by these entities' existing capacity. Thus, the numbers of customers shown in the table are for the customers served by the proposed transmission facilities. For Buena Vista and Cassie, we assumed that both existing and new customers will be served by the proposed regional transmission system.

Table 9-23: North Option 3 – Transmission Costs

Entity	Connections Served	$ / connection	Cost per 1000 gallons
City of Bertram	1,351 over those served by current capacity	5,129	2.30
City of Burnet	308 over those served by current capacity	1,814	0.81
Cassie area	264	3,963	1.77
Buena Vista area	389	1,349	0.60

9.6.7 North Option 4: Northern Burnet County Regional System

In the analysis for North Option 4, we assumed that the existing City of Burnet WTP would stay in service and be expanded to serve the City of Burnet, Paradise Point, Burnet Co. MUD No. 2, South Silver Creek (I, II, III), Bonanza Beach, Council Creek Village, Cassie Water System, Buena Vista Water System, City of Bertram, and Whitewater Springs. Also, this option assumes that City of Burnet's existing raw water intake location would still be used; however, the raw water pump station and raw water pipeline would need to be expanded to accommodate the new max day demands. Also, we assumed that the new raw water pipeline would follow a similar profile as the existing pipeline; thus, the length of the new raw water pipeline would be approximately 1,550 ft.

Should this option be implemented, the Paradise Point, South Silver Creek (I, II, III), Bonanza Beach, Council Creek Village, Cassie and Buena Vista Water Systems would be decommissioned, requiring the new system to meet a 2040 ultimate buildout maximum demand of 10.54 MGD and average day demand of 5.27 MGD. The initial capacity prior to any new construction would be 3.73 MGD, so in a phased approach, the additional capacity added in Phase 1 (2015) would be 1.83 MGD max, in Phase 2 (2020) would be 1.1 MGD, in Phase 3 (2025) would be 1.34 MGD, in Phase 4 (2030) would be 1.29 MGD, and in Phase 5 (2035) would be 1.25 MGD. Upgrades to the raw water pump station would also need to take place at the same timeframes to meet the same max day demands as the WTP. Table 9-7 presents the total costs for North Option 4 without distribution system transmission mains, booster pump stations and elevated storage tanks.

O&M costs for 2015 are based on the analysis outlined in Section 9.4. Maintenance and spare parts are assumed to be 10-percent of the total labor, chemical and power costs. Table 9-24 presents the O&M costs for North Option 4.

Table 9-24: North Option 4 - O&M Costs

Item	Monthly Costs ($/mo)
Labor (WTP Operator and Mechanical Maintenance Technician)	$23,800
Chemical	$10,300
Power	$21,900
Maintenance/Spare Parts	$5,600
2015 Total ($/mo)	$61,600
2015 Total ($/yr)	$739,200
Total 2011 Present Worth of O&M Costs for 2015-2040 (1)	$16,829,600

(1) Present-worth value assumes an interest rate of 3.5-percent and annual demand growth rate of 3.5%.

Labor costs include two full-time WTP operators and one full-time mechanical maintenance technician, as determined using Table 9-5. We calculated chemical costs based on average daily flows in 2015 and average dosages presented in Table 9-6. Table 9-25 presents the estimated chemical usages for North Option 4.

Table 9-25: North Option 4 - Chemical Usages

Chemical	Monthly Usage
Alum	70 gal
NaOCl	80 gal
LAS	24 gal
Fluoride	7 gal
Polymer	4 gal
$K(MnO_4)$	19 lb

The greatest source of power consumption from a water treatment standpoint is the electricity required for pumping. This analysis looked at raw water pumping, internal plant and finished water pumping. Table 9-26 presents the pump heads and criteria used to determine these heads for North Option 4.

Table 9-26: North Option 4 - Pumping Criteria

Pumping Type	Number of pumps	Pump Capacity (GPM)	Pump Head (ft)	Hp	Kilowatt Hours per Day	Assumptions
Raw water	Total: 3 Firm: 2	800	130	66	1,165	Intake EL = 860 ft WTP EL = 990 ft
Finished water	Total: 6 Firm: 5	320	580	295	5,199	WTP EL = 990 ft Storage Tank EL = 1570 ft
Internal plant	-		-	-	117	10-percent of raw water pumping

For Northern Regional Option 4, the Roth Team estimated transmission system costs to have a present worth of $18.5 million. As with Option 3, the transmission mains serving the Buena Vista and Cassie areas would be constructed in the 2011 to 2015 time frame, as would the transmission main serving the entities on the northeast side of Lake Buchanan. The booster pump station, 4-inch transmission main and standpipe that would serve Whitewater Springs would also be constructing prior to 2015. However, the transmission main from Burnet to Bertram would not be constructed until the 2016 to 2020 time frame, and the additional 16-inch transmission main from the Burnet WTP to Burnet would not be needed until the 2026 to 2030 time frame. After calculating the participation costs for each transmission main segment, per connection costs ranged from $1,162 for the Burnet to $16,583 for Whitewater Springs. Per connection costs were high for both Whitewater Springs and Paradise Point because these entities are both located at the outer limits of the regional system.

Each entity's per connection costs and the estimated cost per 1000 gallons are given in the table below. As with Option 3, the costs shown for Burnet and Bertram do not apply to customers that can be served by these entities' existing capacity. Thus, the numbers of customers shown in Table 9-27 are for the customers served by the proposed transmission facilities. For all the other entities included in this option, we assumed that both existing and new customers will be served by the proposed regional transmission system.

Table 9-27: North Option 4 – Transmission Costs

Entity	Connections Served	$ / connection	Cost per 1000 gallons
City of Bertram	1,351 over those served by current capacity	4,379	1.96
Whitewater Springs	150	16,583	7.42
City of Burnet	308 over those served by current capacity	1,162	0.52
Council Creek V.	170	2,165	0.97
Bonanza Beach	71	3,128	1.40
S. Silver Creek	98	3,535	1.58
Burnet MUD 2	252	3,792	1.70
NE Lake Buchanan Developments	1188	3,792	1.70
Paradise Point	158	10,994	4.92
Cassie area	264	3,963	1.77
Buena Vista area	389	1,349	0.60

9.6.8 South Option 1: Marble Falls/Blanco San Miguel Regional System

In the analysis for South Option 1, we assumed that the existing City of Marble Falls WTP would stay in service and a new WTP would be constructed to serve the City of Marble Falls, Blanco San Miguel, Ltd., Capstone Water System, South Road and Hamilton Creek. The existing raw water intake location would still be utilized, and a new raw water intake and pipeline would need to be constructed to accommodate the new WTP. For this option, the proposed intake would be near Max Starcke Dam, and the length of the new raw water pipeline would be approximately 860 ft.

The Marble Falls WTP capacity would be required to meet a 2040 ultimate buildout max demand of 14.86 MGD and average day demand of 7.43 MGD. The initial capacity prior to any new construction would be 3.80 MGD, so in a phased approach, the additional capacity added in Phase 1 (2015) would be 0.71 MGD max, in Phase 2 (2020) would be 1.45 MGD, in Phase 3 (2025) would be 1.82 MGD, in Phase 4 (2030) would be 2.02 MGD, and in Phase 5 (2035) would be 5.06 MGD. The new raw water intake and pump station phased construction would also need to take place at the same timeframes to meet the same max day demands as the WTP. Table 9-8 presents the total costs for South Option 1 without distribution system transmission mains, booster pump stations and elevated storage tanks.

O&M costs for 2015 are based on the analysis outlined in Section 9.4. Maintenance and spare parts are assumed to be 10-percent of the total labor, chemical and power costs. Table 9-28 presents the O&M costs for South Option 1.

Table 9-41: Summary of Project Costs by Option and Entity

Northern Region	Option 1 Treatment ($/1000 gal)	Option 1 Transmission ($/1000 gal)	Option 1 Total ($/1000 gal)	Option 2A Treatment ($/1000 gal)	Option 2A Transmission ($/1000 gal)	Option 2A Total ($/1000 gal)	Option 2B Treatment ($/1000 gal)	Option 2B Transmission ($/1000 gal)	Option 2B Total ($/1000 gal)	Option 3 Treatment ($/1000 gal)	Option 3 Transmission ($/1000 gal)	Option 3 Total ($/1000 gal)	Option 4 Treatment ($/1000 gal)	Option 4 Transmission ($/1000 gal)	Option 4 Total ($/1000 gal)
Tow Village	$20.80	$0.57	$21.37	-	-	-	-	-	-	-	-	-	-	-	-
Fall Creek Vineyards	$20.80		$20.80	-	-	-	-	-		-	-	-	-	-	-
Paradise Point	-	-	-	$1.87	$3.59	$5.46	$2.02	$4.18	$6.20	-	-	-	$1.08	$4.92	$6.00
Burnet Co. MUD No. 2	-	-	-	$1.87	$0.36	$2.23	$2.02	$0.96	$2.98	-	-	-	$1.08	$1.70	$2.78
South Silver Creek (I, II, III)	-	-	-	$1.87	$0.22	$2.09	$2.02	$0.84	$2.86	-	-	-	$1.08	$1.58	$2.66
Bonanza Beach	-	-	-	$1.87	$0.04	$1.91	$2.02	$0.66	$2.68	-	-	-	$1.08	$1.40	$2.48
Council Creek Village	-	-	-	$1.87	$2.82	$4.69	$2.02	$0.23	$2.25	-	-	-	$1.08	$0.97	$2.05
Cassie Water System	-	-	-	-	-	-	-	-	-	-	-	-	$1.08	$1.77	$2.85
Buena Vista Water System	-	-	-	-	-	-	-	-	-	$0.99	$1.77	$2.76	$1.08	$0.60	$1.68
City of Burnet	-	-	-	-	-	-	-	-	-	$0.99	$0.60	$1.59	$1.08	$0.52	$1.60
City of Bertram	-	-	-	-	-	-	-	-	-	$0.99	$0.81	$1.80	$1.08	$1.96	$3.04
NE Lake Buchanan Develop.	-	-	-	$1.87	$0.39	$2.26	$2.02	$0.96	$2.98	$0.99	$2.30	$3.29	$1.08	$1.70	$2.78
Whitewater Springs	-	-	-	-	-	-	-	-	-	-	-	-	$1.08	$7.42	$8.50

Southern Region	Option 1 Treatment ($/1000 gal)	Option 1 Transmission ($/1000 gal)	Option 1 Total ($/1000 gal)	Option 2 Treatment ($/1000 gal)	Option 2 Transmission ($/1000 gal)	Option 2 Total ($/1000 gal)	Option 3 Treatment ($/1000 gal)	Option 3 Transmission ($/1000 gal)	Option 3 Total ($/1000 gal)	Option 4 Treatment ($/1000 gal)	Option 4 Transmission ($/1000 gal)	Option 4 Total ($/1000 gal)
City of Highland Haven	-	-	-	-	-	-	-	-	-	$0.52	$0.58	$1.10
City of Granite Shoals	-	-	-	-	-	-	-	-	-	$0.52	$0.00	$0.52
City of Meadowlakes	-	-	-	-	-	-	$0.65	$0.00	$0.65	-	-	-
City of Cottonwood Shores	-	-	-	$1.24	$0.49	$1.73	-	-	-	-	-	-
City of Marble Falls[1]	$1.26	$0.00	$1.26	$1.24	$0.00	$1.24	$0.65	$0.05	$0.70	-	-	-
Hamilton Creek	$1.26	$0.00	$1.26	$1.24	$0.00	$1.24	$0.65	$0.00	$0.65	-	-	-
South Road	$1.26	$0.00	$1.26	$1.24	$0.00	$1.24	$0.65	$0.00	$0.65	-	-	-
Capstone Water System	-	-	-	$1.24	$0.10	$1.34	-	-	-	-	-	-
Quail Creek	-	-	-	$1.24	$0.76	$2.00	-	-	-	-	-	-
Blanco San Miguel	$1.26	$0.67	$1.93	$1.24	$0.52	$1.76	-	-	-	-	-	-
Smithwick Mills	-	-	-	$1.24	$6.04	$7.28	-	-	-	-	-	-
Spicewood Beach	-	-	-	$1.24	$2.24	$3.48	-	-	-	-	-	-
Ridge Harbor	-	-	-	$1.24	$2.07	$3.31	-	-	-	-	-	-
Windermere Oaks WSC	-	-	-	$1.24	$1.86	$3.10	-	-	-	-	-	-

(1) Does not include costs of contract to purchase water from the City of Meadowlakes

Based on this analysis, it appears that any entities using this water source – Bonanza Beach, South Silver Creek (I, II, III) and Council Creek Village – would be better served using surface water. This can be accomplished through one of the Northern Regional options presented in this report.

9.7.2 City of Cottonwood Shores

Due to the current condition of the Cottonwood Shores WTP, the City would need to evaluate whether they wanted to participate in a regional option or possibly construct a new treatment facility. The cost of constructing a new facility to meet the City's 2040 max day demand - including water treatment, intake, raw water piping and O&M through 2040 – is presented below in Table 9-42.

Table 9-42: Cottonwood Shores Stand-Alone Option Economic Analysis

Capital Costs	
RWPS/Intake	$168,000
RW Pipe	$108,000
WTP/Distribution Pump Station	$3,080,000
Professional Services (20%)	$671,200
Contingency (15%)	$503,400
Phase Capital Cost Totals	$4,530,600
2011 Present Worth of Capital Costs	$3,464,800
2011 Present Worth of O&M Costs	$2,939,900
Total 2011 Present Worth Cost	**$6,404,700**
Total Avg Day Demand, 2015-2040 (MG)	**3,139**
Total Present Worth Cost/1,000 Gals	**$2.04**

Notes:
1) O&M costs included complete system operating costs, operating at average daily demand.
2) Land acquisition and easement costs are not included.
3) Assumes 3.5 percent interest.

9.7.3 Cities of Burnet and Marble Falls

In both the northern and southern areas, the water systems of the Cities of Burnet and Marble Falls would serve as the core of several of the regional options being considered. These two cities will have to consider the impacts on their systems before taking on these roles. A detailed analysis is beyond the scope of this project, but it is certain that the Cities of Burnet and Marble Falls will benefit from economies of scale both in the construction of new intake and treatment facilities and in the operation and maintenance of these facilities. It is anticipated that the cost per 1000 gallons for treatment, and in Burnet's case for transmission as well, will be lower than if these cities chose not to participate in a regional system.

9.7.4 Buena Vista Water System

Due to the current condition of the Buena Vista WTP, whether or not the entity decides to ~~pursuit~~ pursue a regional option, a new facility would need to be constructed soon. Designed for 2040 max day demand, the cost of a new facility, including water treatment, intake, raw water piping and O&M through 2040, is presented below in Table 9-43.

Table 9-43: Buena Vista Stand-Alone Option Economic Analysis

Capital Costs	
RWPS/Intake	$68,000
RW Pipe	$64,800
WTP/Distribution Pump Station	$1,360,000
Professional Services (20%)	$298,560
Contingency (15%)	$223,920
Phase Capital Cost Totals	$2,015,280
2011 Present Worth of Capital Costs	$1,584,000
2011 Present Worth of O&M Costs	$2,939,900
Total 2011 Present Worth Cost	**$4,523,900**
Total Avg Day Demand, 2015-2040 (MG)	**$1,305**
Total Present Worth Cost/1,000 Gals	**$3.47**

Notes:
1) O&M costs included complete system operating costs, operating at average daily demand.
2) Land acquisition and easement costs are not included.
3) Assumes 3.5-percent interest.

9.7.5 City of Bertram

The City of Bertram is also considering developing well fields northwest of Bertram. In discussions with City representatives and with Richard Bowers at the Central Texas Groundwater Conservation District, there appear to be possibilities of drilling and developing 60 GPM wells about 5 to 10 miles from Bertram. Assuming these wells would be in the 900-foot depth range, the drilling and development of these wells and the transmission mains required to transport this water to Bertram would cost about $8.3 million if the wells are about 10 miles from Bertram. Assuming the wells are drilled and developed as demands increase out to 2040, the projects would have a present worth of $6.4 million and the estimated cost per 1000 gallons would be $1.99. This does not include payments to the landowners for the purchase of groundwater.

If the wells can be developed five miles from Bertram, the same projects would have a present worth of $3.8 million and the estimated cost per 1000 gallons would be $1.18 (for all future connections). However, the evidence today suggests that it is unlikely that wells drilled within five miles of Bertram would produce in the range of 60 GPM. Wells in the Whitewater Springs area are only producing 25 GPM. Lower production wells would quickly drive the project costs up as wells would cost about $180,000 each, and there would be additional branch lines to collect the groundwater from each well.

10.0 POTENTIAL FUNDING SOURCES

Funding sources for the Burnet-Llano County Regional Water System are dependent on the selected alternative and financial viability of each political entity within the study area. Also, the type of funding source selected to finance the engineering design and construction costs will depend on the organizational structure of the entity that owns and operates the regional system.

A number of potential funding sources exist for rural utilities, which typically provide service to less than 50,000 people. Both state and federal agencies offer grant and loan programs to assist rural communities in meeting their infrastructure needs. Most are available to "political subdivisions" such as counties, municipalities, school districts, special districts, or authorities of the state with some programs providing access to private individuals.

Grant funds are typically available to those entities that demonstrate financial need based on a median household income (MHI) value below 75 to 80 percent of the State's MHI value. The funds may be used for planning, design, and construction of wastewater construction projects. Some funds may be used to finance the consolidation or regionalization of neighboring wastewater utilities. Three Texas agencies that offer financial assistance for wastewater infrastructure are:

- **Texas Water Development Board (TWDB)** has several programs that offer loans at interest rates lower than the market offers to finance projects for public wastewater systems that facilitate compliance with wastewater regulations. Additional subsidies may be available for disadvantaged communities. Low interest rate loans with short and long-term finance options at tax exempt rates for wastewater projects give an added benefit by making construction purchases qualify for a sales tax exemption. Generally, the program targets customers with eligible wastewater projects for all political subdivisions of the state (at tax exempt rates).
- **Texas Department of Rural Affairs (TDRA, formerly ORCA)** is a Texas state agency with a focus on rural Texas by making state and federal resources accessible to rural communities. Funds from the U.S. Department of Housing and Urban Development Community Development Block Grants (CDBG) are administered by TDRA for small, rural communities with populations less than 50,000 that cannot directly receive federal grants. These communities are known as non-entitlement areas. One of the program objectives is to meet a need having a particular urgency, which represents an immediate threat to the health and safety of residents, principally for low- and moderate-income persons. At this time, the programs may be changing since the legislative session; the agency will become the Office of Rural Affairs at the Texas Department of Agriculture during the fall of 2011.
- **U.S. Department of Agriculture Rural Development Texas (Texas Rural Development)** coordinates federal assistance to rural Texas to help rural Americans improve their quality of life. The Rural Utilities Service (RUS) programs provide funding for water and wastewater disposal systems. The application process, eligibility requirements, and funding structure vary for each of these programs. There are many conditions that must be considered by each agency to determine eligibility and ranking of projects. The principal factors that affect this choice are population, percent of the population under the State MHI, health concerns, compliance with standards, Colonia status, and compatibility with regional and state plans.

In addition to Federal and State water/wastewater programs, funding sources may also originate from revenue bonds and developer participation towards the regional infrastructure of the system. An overview of all of these financing mechanisms is presented below.

10.1 Federal and State Infrastructure Programs

There are a variety of funding programs available to entities through Federal and State infrastructure programs. Depending on the type of organization that owns the proposed regional water facilities, funding is most likely to be obtained from programs administered by the TWDB, TDRA and/or USDA Rural Development. Information required by these agencies for initial applications may include financial analyses, records demonstrating health concerns, failing infrastructure, and financial need.

10.1.1 TWDB Funding Options

The programs offered by the TWDB include the Drinking Water State Revolving Fund (DWSRF), State Loan Program (Development Fund II), State Participation Fund, and Economically Distressed Areas Program (EDAP).