STWA

SOUTH TEXAS WATER AUTHORITY
P. O. BOX 1701
KINGSVILLE, TEXAS 78364-1701

MEMORANDUM

TO: South Texas Water Authority Board of Directors
FROM: Kathleen Lowman, President
DATE: March 19, 2018
SUBJECT: Meeting Notice and Agenda for the South Texas Water Authority

A Regular Meeting of the STWA Board of Directors is scheduled for:

Tuesday, March 27, 2018
5:30 p.m.
South Texas Water Authority
2302 East Sage Road, Kingsville, Texas

The Board will consider and act upon any lawful subject which may come before it, including among others, the following:

Agenda

1. Call to order.

2. Citizen comments. This is an opportunity for citizens to address the Board of Directors concerning an issue of community interest that is not on the agenda. Comments on the agenda items must be made when the agenda item comes before the Board. The President may place a time limit on all comments. The response of the Board to any comment under this heading is limited to making a statement of specific factual information in response to the inquiry, or, reciting existing policy in response to the inquiry. Any deliberation of the issue is limited to a proposal to place it on the agenda for a later meeting.

3. Approval of Minutes. (Attachment 1)

4. Treasurer's Report/Payment of Bills. (Attachment 2)

5. TCEQ Enforcement Action and State Office of Administrative Hearings. (Attachment 3)

6. Assessment of STWA's 42" waterline – Russell Corrosion Projects (Attachment 4)
   - Examination of Section 0 – 5000 LF – Report on Cathodic Protection Evaluation
   - Proposal for performing Cathodic Protection upgrades in-house

7. Driscoll Pump Station LAS Chemical Feed System Addition. (Attachment 5)

8. Water Supply Contract with the City of Bishop. (Attachment 6)

9. Mercer Controls contract for elimination of repeater antenna on Driscoll elevated storage tank. (Attachment 7)

(361) 592-9323 Or (361) 692-0337 (C.C. line)
Fax: (361) 592-5965

10. HDR proposal for Standard Operating Procedures for the Driscoll and Central Disinfectant Booster Stations. (Attachment 8)

11. Adjournment.

The Board may go into closed session at any time when permitted by Chapter 551, Government Code. Before going into closed session a quorum of the Board must be assembled in the meeting room, the meeting must be convened as an open meeting pursuant to proper notice, and the presiding officer must announce that a closed session will be held and must identify the sections of Chapter 551, Government Code, authorizing the closed session.

KL/CGS/fdl
Attachments

This meeting notice was posted on STWA's website, www.stwa.org, and on indoor and outdoor bulletin boards at STWA's administrative offices, 2302 East Sage Road, Kingsville, Texas at 3:00 am/pm on 3/23/2018

James DeLeon
Assistant Secretary

ATTACHMENT 1

Approval of Minutes

SOUTH TEXAS WATER AUTHORITY
Regular Board of Directors Meeting
February 27, 2018
Minutes

Board Members Present:

Kathleen Lowman
Patsy Rodgers
Charles Schultz
Filiberto Treviño
Steven Vaughn

Board Members Absent:

Dr. Albert Ruiz
Rudy Galvan
Lupita Perez

Staff Present:

Carola G. Serrato
Frances De Leon
Jo Ella Wagner
Jacob Hinojosa
Dony Cantu

Guests Present:

Sherrel Mercer, Mercer Controls, Inc. Co., P.C.
Rudy Mora, City of Kingsville

1. Call to Order.

Ms. Kathleen Lowman, Board President, called the Regular Meeting of the STWA Board of Directors to order at 5:47 p.m. A quorum was present.

2. Citizen Comments.

Ms. Lowman opened the floor to citizen's comments. Mr. Rudy Mora, Kingsville City Engineer, introduced himself to the Board. Mr. Mora stated that he was newly hired by the City of Kingsville and was attending the meeting at the request of City Manager Jesus Garza.

Mr. Sherrel Mercer also addressed the Board. He gave a brief update on the Driscoll LAS project. He added that he wanted to be present to answer any questions that might arise from the quote he provided to be discussed later in the meeting. He also stated that Jacob Hinojosa and Dony Cantu had proven to be very helpful on the Driscoll LAS project and that he has enjoyed working with Ms. Serrato.

3. Approval of Minutes.

Ms. Rodgers made a motion to approve the minutes of the January 23, 2018 Regular Meeting as presented. Mr. Treviño seconded. The motion passed by unanimous vote.

4. Treasurer's Report/Payment of Bills.

The following reports were presented for the Board's consideration:

Treasurer's Report for period ending January 31, 2018
Revenue Fund Income Statement for period ending January 31, 2018
Tax Fund Income Statement for period ending January 31, 2018

Special Services Income Statement for period ending January 31, 2018
STWA Revenue Fund Balance Sheet – January 31, 2018
STWA Revenue Fund GL Account Summary Report as of January 31, 2018
STWA Debt Service Fund Income Statement for period ending January 31, 2018
STWA Debt Service Fund Balance Sheet January 31, 2018
STWA Debt Service Fund GL Account Summary Report as of January 31, 2018
STWA Capital Projects Fund Income Statement for period ending January 31, 2018
STWA Capital Projects Fund Balance Sheet – January 31, 2018
STWA Capital Projects Fund GL Account Summary Report as of January 31, 2018
STWA 2012 Bond Election Report
Anticipated vs. Actual Water Rate Charged
Maintenance & Technical Report from O&M Supervisor

The following outstanding invoices were presented for Board approval:

• Kevin Kieschnick-NC Tax Assessor	$ 2,140.45
• Willatt & Flickinger, PLLC	$ 934.50
• Russell Corrosion Consultants	$ 3,935.87
• Russell Corrosion Consultants	$ 1,417.98
• City of Corpus Christi	$ 93,024.09
• Kevin Kieschnick-NC Tax Assessor	$ 3,741.64

A motion was made by Mr. Galvan to approve the Treasurer's Report and payment of the bills as presented. Ms. Rodgers seconded. The motion carried.

5. TCEQ Enforcement Action and State Office of Administrative Hearings.

Ms. Serrato reported that the most recent Quarterly Report was submitted on February 20th. TCEQ has approved the Lab Approval form. The next conference call is scheduled to occur during the second week of March.

6. Assessment of STWA's 42" Waterline – Russell Corrosion Projects
   - Examination of Section 0 – 5000 LF

Ms. Serrato presented the Russell Corrosion draft report on the Cathodic Protection Evaluation of Section 0 – 5000 of STWA's 42" waterline. The draft report recommends bonding all joints and adding anodes where there are none, instead of every third joint as originally recommended. The report also recommends upgrading cathodic protection now rather than performing further evaluations and provides a cost estimate of $150,000 for additional anodes and pipe joint continuity repairs from Station 0+00 to 51+67.49 but also notes that the work can be performed by STWA personnel in order to minimize costs. Mr. Bruce Norred of Russell Corrosion indicated that they do not do this type of work. Ms. Serrato stated that about $1,000,000 remains in bond funds and this type of work would be eligible for use of those funds even if performed in-house. She asked that the Board consider hiring two extra Field Technicians to work on the cathodic protection project. The Board agreed by consensus for Ms. Serrato to present a proposal at a future Board meeting.

7. Driscoll Pump Station LAS Chemical Feed System Addition.

Ms. Serrato presented a Request for Payment from Mercer Controls in the amount of $46,217.50 but added that Shay Roalson, HDR Engineering, does not recommend full payment. Because the project is not substantially complete and STWA has not determined whether liquidated damages will be assessed, Ms. Roalson recommends withholding $13,250 (53 days of liquidated damages) from the pay request. If STWA opts not to assess the full liquidated damages and the system remains functioning satisfactorily, then the portion that is not assessed and the retainage can be authorized for payment at the Board's March 27th meeting. Mr. Vaughn made a motion to authorize payment of $32,967.50 as recommended by Ms. Roalson. Mr. Galvan seconded. All voted in favor.

8. Revised Water Supply Contract with the City of Bishop.

Ms. Serrato stated that she had spoken with bond attorney Noel Valdez about whether basing the City of Bishop's contract on a percent of usage rather than a dollar amount such as in the City of Kingsville's contract would establish a different class of customers. Mr. Valdez has advised that this would not be considered a different class because the same amount is being charged. She also asked legal counsel Bill Flickinger about other ways to proceed with negotiations since Bishop's attorney Gerald Benadum is unavailable. Mr. Flickinger has advised that if the City is willing to meet without Mr. Benadum, he requests that the City provide written confirmation that it is okay to do so. Mr. Treviño stated that he would prefer face to face meetings with the City. Based on Board consensus to arrange negotiation meetings, Ms. Serrato agreed to make that request.

9. Report on Surplus Sale.

Ms. Serrato reported that bids on the surplus sale were opened on February 23rd and totaled $4,344.52. The items that did not receive bids were donated or recycled.

10. Incremental Increase Charges for Customers without a Long-Term Contract.

Ms. Serrato reported that there has been no contact from Bishop, Driscoll or Banquete regarding the Incremental Increase charges on the invoices that were mailed out on January 19th. Invoices including the Incremental Increase have been paid by these entities.

11. Quote from Mercer Controls for elimination of repeater on Driscoll elevated storage tank.

Ms. Serrato presented a quote in the amount of $34,475 from Mercer Controls to eliminate the Driscoll EST repeater station. She stated that there have been problems with the electric service at the Driscoll EST which interrupts all STWA SCADA communication. There is also a $3,600 annual rental fee for use of antenna space on the City of Driscoll's EST. Recent upgrades of STWA's SCADA equipment allows for use of a repeater station that does not require the greater height of the EST. Although installing an antenna at another location involves a significant expense, the cost will eventually be recouped by elimination of the annual rental fee. After reviewing the quote, Mr. Treviño made a motion to accept the Mercer Controls proposal and

proceed with the project to eliminate the Driscoll EST repeater station. Mr. Vaughn seconded. All voted in favor.

12. Kleberg County Extension Agency funding request for private water well screening.

Ms. Serrato presented an email request from Kleberg/Kenedy County Agriculture Extension Agent Frank Escobedo. The request is for $4,147 to provide funds for a Water Quality Screening study of private water wells located in Kleberg and Kenedy Counties. The total cost of the joint study is $12,441 to be divided equally among the three participants providing funding – STWA, Texas A&M AgriLife Extension Service and Kenedy County Groundwater Conservation District. The screening will involve thirty private wells and will be conducted between March 15, 2018 and December 31, 2018. Since it is possible that some of the wells are outside of STWA's district boundaries, Ms. Serrato confirmed with Mr. Flickinger that funding the joint study should not violate any rules. Mr. Galvan made a motion to provide $4,147 for the Water Quality Screening study of private water wells located in Kleberg and Kenedy Counties. Mr. Treviño seconded. All voted in favor.

13. Adjournment.

With no further business to discuss, Ms. Lowman adjourned the meeting at 6:49 p.m.

Respectfully submitted,

Frances De Leon
Assistant Secretary

ATTACHMENT 2

Treasurer's Report/Payment of Bills

SOUTH TEXAS WATER AUTHORITY
Treasurer's Report
For Period Ending February 28, 2018

STWA Water Sales:

Entity	Water Usage (1,000 g)	Cost of Water from City of Corpus Christi $2.400483 per 1000 g	Handling Charge @ $0.426386/1000g	Incremental Increase @ $0.426386/1000g	Out of District Surcharge and Pass-Thru Credit	Total Due
Kingsville	8,188	$19,655.15	$3,491.25	$0.00	-$26.56	$23,119.84
Bishop	3,472	$8,334.48	$1,480.41	$1,480.41	$0.00	$11,295.30
Agua Dulce	1,826	$4,382.66	$778.47	$0.00	$0.00	$5,161.13
RWSC	5,462	$13,111.44	$2,328.92	$0.00	$0.00	$15,440.36
Driscoll	3,316	$7,960.96	$1,414.07	$1,414.07	-$27.25	$10,761.84
NCWCID #5	1,929	$4,631.35	$822.64	$822.64	$731.47	$7,008.11
NWSC	11,186	$26,852.21	$4,769.63	$0.00	$0.00	$31,621.84
TOTAL	35,380	$84,928.25	$15,085.39	$3,717.12	$677.66	$104,408.42

Water Cost and Usage for Period of:	**01/31/18**	**to**	**02/28/18**
City of Corpus Christi Invoice for Cost of Water Purchased:			$80,896.29
Gallons of Water Recorded by City of Corpus Christi:			33,700,000
Gallons of Water Recorded by STWA from Customer's Master Meters:			35,379,650
Water Loss Percentage:			-4.98%

Annual Usage for FY 2018	**Annual**
Gallons of Water Recorded by City of Corpus Christi:	194,700,000
Gallons of Water Recorded by STWA from Customer's Master Meters:	204,301,340
Water Loss Percentage: (year to date)	-4.93%

REVENUE FUND
INCOME STATEMENT
FOR PERIOD ENDING FEBRUARY 28, 2018

40.83%

	MONTHLY	YEAR TO DATE	2018 ADOPTED BUDGET	% OF 2018 ADOPTED BUDGET	2017 YEAR TO DATE	2017 FINAL BUDGET
REVENUES						
Water Service Revenue	84,928	480,053	1,257,962	38%	489,731	1,240,206
Handling Charge Revenue	15,085	87,017	220,170	40%	90,167	228,517
Premium Incremental Increase	3,717	12,584	0	0%	0	0
Surcharge - Out of District	552	2,758	6,619	42%	2,408	5,778
Interest Income	2,214	9,247	10,000	92%	3,489	13,500
Other Revenue						
Operating & Maintenance Fees	0	0	0	0%	0	0
Miscellaneous Revenues	58	1,214	5,000	24%	5,925	6,750
TOTAL REVENUES	106,554	592,873	1,499,751	40%	591,720	1,494,751
EXPENDITURES						
Water Service Expenditures:						
Bulk Water Purchases	80,896	457,994	1,257,962	36%	498,473	1,233,414
Payroll Costs						
Salaries & Wages - Perm. Employees	26,148	127,274	328,813	39%	120,275	285,123
Salaries & Wages - Part-Time	191	637	1,607	40%	2,585	5,851
Overtime - NWSC	114	114	0	0%	0	0
Stand-by Pay - NWSC	0	0	0	0%	0	0
Overtime - RWSC	0	0	0	0%	0	0
Stand-by Pay - RWSC	0	0	0	0%	0	0
Overtime - STWA	941	7,472	21,000	36%	5,875	17,910
Stand-by Pay - STWA	100	500	1,300	38%	500	1,300
Employee Retirement Premiums	3,063	18,511	44,452	42%	12,946	36,612
Group Insurance Premium	14,812	67,047	169,122	40%	64,798	147,404
Unemployment Compensation	364	853	874	98%	1,636	300
Workers' Compensation	(2,247)	5,472	6,498	84%	11,717	7,252
Car Allowance	500	2,400	4,800	50%	2,000	4,800
Hospital Insurance Tax	329	1,295	3,757	34%	1,259	3,388
Supplies & Materials						
Repairs & Maintenance	6,491	28,064	80,000	35%	52,503	126,500
Meter Expense	0	3,375	5,000	68%	4,125	7,140
Tank Repairs	0	4,300	20,000	22%	0	7,800
Major Repairs	0	0	25,000	0%	0	25,000
Other Operating Expenditures:						
Professional Fees						
Legal	802	4,295	40,000	11%	10,839	30,000
Auditing	0	9,369	9,500	99%	9,155	9,155
Engineering	3,200	49,846	90,000	55%	0	60,000
Management & Consulting	0	278	10,000	3%	1,143	14,550
Inspection	0	2,725	5,500	50%	0	1,600
Leak Detection	0	55,440	75,000	74%	0	20,000
Consum Supplies/Materials						
Postage	2,216	2,504	11,500	22%	4,782	8,950
Printing/Office Supplies	376	12,655	19,000	67%	9,595	18,650
Janitorial/Site Maintenance	433	2,476	5,000	50%	958	4,350
Fuel/Lubricants/Repairs	2,404	11,536	33,000	35%	7,923	24,335
Chemicals/Water Samples	1,340	18,239	58,000	31%	21,480	49,900
Safety Equipment	0	0	1,500	0%	650	1,500
Small Tools	0	761	1,000	76%	170	1,000

	MONTHLY	YEAR TO DATE	2018 ADOPTED BUDGET	% OF 2018 ADOPTED BUDGET	2017 YEAR TO DATE	2017 FINAL BUDGET
Recurring Operating Costs						
Telephone/Communications	1,371	8,329	21,100	39%	6,769	23,700
Utilities	7,519	35,118	115,000	31%	44,085	108,500
D & O Liability Insurance	0	1,164	3,500	33%	1,164	2,100
Property Insurance	(14,019)	19,229	33,247	58%	33,247	33,247
General Liability	370	1,617	2,750	59%	1,247	2,750
Auto Insurance	0	2,050	2,050	100%	2,050	2,050
Travel/Training/Meetings	196	2,209	10,000	22%	1,951	6,300
Rental-Equipment/Uniforms	1,030	1,744	5,000	35%	602	3,500
Dues/Subscriptions/Publication	1,066	3,442	15,000	23%	2,430	9,300
Pass Through Cost	54	239	500	48%	194	780
Educational Materials	0	0	660	0%	0	0
Miscellaneous						
Miscellaneous Expenditures	60	2,568	7,500	34%	5,630	9,000
Total Administrative & Operations Exp.	140,120	973,145	2,545,492	38%	944,756	2,355,011
Capital Outlay						
Capital Acquisition	51,033	87,259	79,000	110%	97,804	114,500
Engineering	0	0	0	0%	798	1,000
TOTAL EXPENDITURES (w/o D.S. exp.)	191,153	1,060,404	2,624,492	40%	1,043,358	2,470,511
Excess (Deficiencies) of Revenue Over Expenditures	(84,598)	(467,531)	(1,124,741)	42%	(451,639)	(975,760)
OTHER FINANCE SOURCE (USES)						
Transfer to Other Funds						
Transfer from Tax Account	0	(804,228)	(1,054,566)	76%	(386,268)	(991,729)
Extra Ordinary Income			(1,500)			
Disposition of Assets (Surplus Sale)	(3,152)	(3,152)	0	0%	0	0
TOTAL OTHER FINANCING SOURCES (USES)	(3,152)	(807,380)	(1,056,066)	76%	(386,268)	(991,729)
EXCESS (DEFICIENCES) OF REVENUES OVER OTHER SOURCES (USES)	(81,447)	339,849	(68,675)		(65,371)	15,969
NET INCOME	(81,447)	339,849	(68,675)		(65,371)	15,969

TAX FUND
INCOME STATEMENT
FOR PERIOD ENDING FEBRUARY 28, 2018

40.83%

	MONTHLY	YEAR TO DATE	2018 ADOPTED BUDGET	% OF 2018 ADOPTED BUDGET	2017 YEAR TO DATE	2017 FINAL BUDGET
REVENUES						
Ad-Valorem - Current	187,338	1,007,260	1,070,008	94%	924,723	989,500
Delinquent Tax Revenue	1,761	16,491	27,500	60%	16,268	33,850
Penalty & Interest - Tax Accounts	3,672	8,911	16,000	56%	7,537	22,050
Miscellaneous	0	0	0	0%	0	0
TOTAL TAXES & INTEREST	192,770	1,032,662	1,113,508	93%	948,528	1,045,400
EXPENDITURES						
Tax Collector Fees	2,704	33,283	37,165	90%	32,972	35,371
Appraisal Districts	0	5,084	21,777	23%	4,966	18,300
TOTAL EXPENDITURES	2,704	38,367	58,942	65%	37,939	53,671
Transfer to General Fund	0	804,228	1,054,566	76%	386,268	991,729
EXCESS REVENUES & OTHER FINANCING SOURCES OVER(UNDER) EXPENDITURES AND OTHER USES	190,067	190,067	0		524,321	0

SPECIAL SERVICES
INCOME STATEMENT
FOR PERIOD ENDING FEBRUARY 28, 2018

40.83%

	MONTHLY	YEAR TO DATE	2018 ADOPTED BUDGET	% OF 2018 ADOPTED BUDGET	2017 YEAR TO DATE	2017 FINAL BUDGET
REVENUES						
Ricardo Water Supply Corporation	18,963	99,875	293,020	34%	96,911	271,554
Nueces Water Supply Corporation	18,402	97,874	275,134	36%	111,653	250,665
TOTAL REVENUES	37,365	197,749	568,154	35%	208,564	522,219
EXPENDITURES						
Personnel	20,988	121,945	304,185	40%	113,180	288,626
Overhead	19,573	101,854	263,969	39%	79,326	233,593
TOTAL EXPENDITURES	40,561	223,799	568,154	39%	192,506	522,219
EXCESS REVENUES & OTHER FINANCING SOURCES OVER(UNDER) EXPENDITURES AND OTHER USES	(3,196)	(26,050)	0		16,058	0

South Texas Water Authority
Balance Sheet
February 28, 2018

ASSETS

Current Assets			
STWA - General	$	123,106.79	
STWA - Payroll		35,789.91	
STWA - Operations		64,345.16	
Petty Cash		150.00	
TexPool - STWA General		2,111,797.98	
Due From Capital Projects Fund		309,410.71	
Due from Debt Service Fund		5,797.02	
Due from D.S .-Collect Service		12,728.68	
Tax Accounts Receivable		165,274.52	
Allowance for Uncollect Taxes		(66,653.05)	
Service accts receivable		188,586.27	
Interlocal Rec-Ricardo		4,498.11	
Interlocal Rec-Nueces		6,409.65	
Interlocal Rec. - Tax Assessor		7,951.74	
Inventory		17,836.50	
Total Assets			$ 2,987,029.99

LIABILITIES AND FUNDS EQUITY

Current Liabilities			
Trade Accounts Payable	$	146,801.45	
Salaries & Wages Payable		21,167.20	
Unemployment Comp. Pbl.		1,229.12	
Miscellaneous Payables		642.84	
Compensated Absences		17,620.65	
Deferred tax revenue		98,621.47	
Total Liabilities			286,082.73
Fund Equity			
Unassigned Fund Balance		2,179,245.44	
Assigned Fund Bal. - Inventory		17,836.50	
Current Earning		503,865.32	
Total Fund Equity			2,700,947.26
Total Liabilities & Fund Equity			$ 2,987,029.99

South Texas Water Authority
Gl Account Summary Report
As of: February 28, 2018

Account Description	Beginning Balance	Debit Change	Credit Change	Net Change	Ending Balance
Current Assets					
STWA - General	70,657.48	$ 353,639.71	$ (301,190.40)	$ 52,449.31	$ 123,106.79
STWA - Payroll	26,406.98	40,013.28	(30,630.35)	9,382.93	35,789.91
STWA - Operations	47,204.74	50,472.89	(33,332.47)	17,140.42	64,345.16
Petty Cash	150.00	0.00	0.00	0.00	150.00
Transfers	0.00	290,000.00	(290,000.00)	0.00	0.00
TexPool - STWA General	2,010,316.38	301,481.60	(200,000.00)	101,481.60	2,111,797.98
Due From Capital Projects Fund	276,443.21	32,967.50	0.00	32,967.50	309,410.71
Due from Debt Service Fund	5,962.94	13.97	(179.89)	(165.92)	5,797.02
Due from D.S .-Collect Service	11,846.90	881.78	0.00	881.78	12,728.68
Tax Accounts Receivable	165,274.52	0.00	0.00	0.00	165,274.52
Allowance for Uncollect Taxes	(66,653.05)	0.00	0.00	0.00	(66,653.05)
Service accts receivable	180,251.46	132,721.61	(124,386.80)	8,334.81	188,586.27
Interlocal Rec-Ricardo	3,090.70	4,606.46	(3,199.05)	1,407.41	4,498.11
Interlocal Rec-Nueces	7,648.33	6,338.52	(7,577.20)	(1,238.68)	6,409.65
Interlocal Rec. - Tax Assessor	114,518.00	7,951.74	(114,518.00)	(106,566.26)	7,951.74
Inventory	17,836.50	0.00	0.00	0.00	17,836.50
Total Assets	**2,870,955.09**	**1,221,089.06**	**(1,105,014.16)**	**116,074.90**	**2,987,029.99**
Current Liabilities					
Trade Accounts Payable	(135,242.93)	220,979.23	(232,537.75)	(11,558.52)	(146,801.45)
Salaries & Wages Payable	(22,396.00)	22,396.00	(21,167.20)	1,228.80	(21,167.20)
Hospital Ins Tax Payable	0.00	1,235.04	(1,235.04)	0.00	0.00
Withholding Taxes Payable	0.00	3,844.43	(3,844.43)	0.00	0.00
Emply Retire Prem Payable	0.00	10,473.64	(10,473.64)	0.00	0.00
Unemployment Comp. Pbl.	(844.25)	0.00	(384.87)	(384.87)	(1,229.12)
Miscellaneous Payables	(706.05)	9,946.16	(9,882.95)	63.21	(642.84)
Compensated Absences	(17,620.65)	0.00	0.00	0.00	(17,620.65)
Deferred tax revenue	(98,621.47)	0.00	0.00	0.00	(98,621.47)
Total Liabilities	**(275,431.35)**	**268,874.50**	**(279,525.88)**	**(10,651.38)**	**(286,082.73)**
Fund Equity					
Unassigned Fund Balance	(2,179,245.44)	0.00	0.00	0.00	(2,179,245.44)
Assigned Fund Bal. - Inventory	(17,836.50)	0.00	0.00	0.00	(17,836.50)
Total Fund Equity	**(2,197,081.94)**	**0.00**	**0.00**	**0.00**	**(2,197,081.94)**
Totals	**398,441.80**	**$ 1,489,963.56**	**$ (1,384,540.04)**	**$ 105,423.52**	**$ 503,865.32**

DEBT SERVICE FUND
INCOME STATEMENT
FOR PERIOD ENDING FEBRUARY 28, 2018

40.83%

	MONTHLY	YEAR TO DATE	2018 ADOPTED BUDGET	% OF 2018 ADOPTED BUDGET	2017 YEAR TO DATE	2017 FINAL BUDGET
REVENUES						
Ad-Valorem - Current	61,098	328,514	366,174	90%	331,249	354,529
Delinquent Tax Revenue	562	5,266	7,000	75%	5,005	10,400
Penalty & Interest - Tax Accounts	1,153	2,515	5,500	46%	1,882	5,675
Out-of-District Surcharge	180	899	2,159		862	2,070
Intererest on Temporary Investments	308	753	900	84%	283	1,450
Miscellaneous	0	0	0	0%	0	0
TOTAL TAXES & INTEREST	63,300	337,947	381,733	89%	339,282	374,124
OTHER FINANCING SOURCES						
Excess Bond Proceeds	0	0	0	0%	0	0
TOTAL OTHER FINANCE SOURCES	0	0	0		0	374,124
TOTAL REVENUE AND OTHER FINANCE SOURCES	63,300	337,947	381,733	89%	339,282	374,124
EXPENDITURES						
Fiscal Agent Fees	100	100	200	50%	100	200
Bond Interest Expense	63,375	63,375	126,750	50%	65,525	131,050
Bond Principal Payments	0	0	220,000	0%	0	215,000
Tax Collector Fees	882	10,908	12,121	90%	11,811	12,676
Appraisal District Fees	0	1,821	7,103	26%	1,779	6,555
Miscellaneous	0	0	0	0%	0	0
TOTAL EXPENDITURES	64,357	76,204	366,174	21%	79,215	365,481
EXCESS REVENUES OVER(UNDER) EXPENDITURES AND OTHER USES	(1,057)	261,743	15,559		260,067	8,643

STWA Debt Service Fund
Balance Sheet
February 28, 2018

ASSETS

Current Assets		
Debt Service Acct. - TexPool	$ 300,393.49	
Due from Other Governments	200.83	
Taxes Receivable	32,556.21	
Allowance for Uncollectibles	(8,581.46)	
Total Current Assets		**324,569.07**
Other Assets		
Total Other Assets		**0.00**
Total Assets		**$ 324,569.07**

LIABILITIES AND FUNDS EQUITY

Current Liabilities		
Deferred Tax Revenue	$ 21,610.10	
Due to General Fund	18,525.71	
Total Current Liabilities		**40,135.81**
Long-Term Liabilities		
Total Long-Term Liabilities		**0.00**
Total Liabilities		**40,135.81**
Funds Equity		
Fund Balance	22,690.35	
Net Income	261,742.91	
Total Funds Equity		**284,433.26**
Total Liabilities & Funds Equity		**$ 324,569.07**

STWA Debt Service Fund
GI Account Summary Report
As of: February 28, 2018

Account Number	Account Description	Beginning Balance	Debit Change	Credit Change	Net Change	Ending Balance
10400	Debt Service Acct. - TexPool	265,957.26	$ 97,911.23	$ (63,475.00)	$ 34,436.23	$ 300,393.49
13100	Due from Other Government	200.83	0.00	0.00	0.00	200.83
13300	Taxes Receivable	67,333.79	2,565.48	(37,343.06)	(34,777.58)	32,556.21
13301	Allowance for Uncollectibles	(8,581.46)	0.00	0.00	0.00	(8,581.46)
21700	Deferred Tax Revenue	(21,610.10)	0.00	0.00	0.00	(21,610.10)
24000	Due to General Fund	(17,809.85)	179.89	(895.75)	(715.86)	(18,525.71)
39100	Fund Balance	(22,690.35)	0.00	0.00	0.00	(22,690.35)
	Totals	262,800.12	$ 100,656.60	$ (101,713.81)	$ (1,057.21)	$ 261,742.91

CAPITAL PROJECTS FUND
INCOME STATEMENT
FOR PERIOD ENDING FEBRUARY 28, 2018

40.83%

	MONTHLY	YEAR TO DATE	2018 ADOPTED BUDGET	% OF 2018 ADOPTED BUDGET	2017 YEAR TO DATE	2017 FINAL BUDGET
REVENUES						
Bond Proceeds	0	0	0	0%	0	0
Interest Income	1,372	6,470	12,500	52%	3,675	11,750
TOTAL REVENUE AND OTHER FINANCE SOURCES	1,372	6,470	12,500	52%	3,675	11,750
EXPENDITURES						
Right of Way Acquisition	0	0	7,264	0%	0	0
Engineering Fees	0	4,500	228,320	2%	23,775	125,000
Construction Costs	32,968	193,886	643,232	30%	155,583	678,066
Pipeline Condition Assessment	0	0	194,100	0%	5,295	5,295
Legal & Administrative Fees	0	0	181,712	0%	0	0
Cost of Bond Issuance	0	0	0	0%	0	0
Miscellaneous Fees	0	0	0	0%	0	0
TOTAL EXPENDITURES	32,968	198,387	1,254,628	16%	184,653	808,361
EXCESS REVENUES OVER(UNDER) EXPENDITURES AND OTHER USES	(31,596)	(191,917)	(1,242,128)		(180,978)	(796,611)

STWA Capital Projects Fund
Balance Sheet
February 28, 2018

ASSETS

Current Assets		
TexSTAR - Construction Fund	$ 1,324,157.59	
Total Current Assets		1,324,157.59
Property and Equipment		
Total Property and Equipment		0.00
Other Assets		
Total Other Assets		0.00
Total Assets		$ 1,324,157.59

LIABILITIES AND FUNDS EQUITY

Current Liabilities		
Due to General Fund	$ 309,410.71	
Total Current Liabilities		309,410.71
Long-Term Liabilities		
Total Long-Term Liabilities		0.00
Total Liabilities		309,410.71
Fund Balance		
Fund Balance	1,206,663.20	
Net Income	(191,916.32)	
Total Fund Balance		1,014,746.88
Total Liabilities & Fund Balance		$ 1,324,157.59

STWA Capital Projects Fund
Gl Account Summary Report
As of: February 28, 2018

Account Number	Account Description	Beginning Balance	Debit Change	Credit Change	Net Change	Ending Balance
11300	TexSTAR - Construction	1,322,785.85	$ 1,371.74	$ 0.00	$ 1,371.74	$ 1,324,157.59
2400	Due to General Fund	(276,443.21)	0.00	(32,967.50)	(32,967.50)	(309,410.71)
39100	Fund Balance	(1,206,663.20)	0.00	0.00	0.00	(1,206,663.20)
	Totals	(160,320.56)	$ 1,371.74	$ (32,967.50)	$ (31,595.76)	$ (191,916.32)

Invoice

Walker Partners
engineers ★ surveyors
600 Austin Avenue, Suite 20
Waco, TX 76701
Phone:(254) 714-1402 / Fax:(254) 714-0402
www.walkerpartners.com
TBPE No. 8053 | TBPLS No. 10032500

Carola Serrato
South Texas Water Authority
P. O. Box 1701
Kingsville, TX 78364

February 28, 2018
Invoice No: 0300652.00 - 14823

Project Manager: Aaron D. Archer , P.E.

Project 0300652.00 South Texas Water Authority - TCEQ Order

Engineering/Surveying Services through February 27, 2018

Phase 0000 Lump Sum Fee

Billing Phase	Lump Sum Fee	% Comp.	Earned	Prior Amount	Current Amount
30 Preliminary Design	29,600.00	85.00	25,160.00	23,680.00	1,480.00
Total Fee	29,600.00		25,160.00	23,680.00	1,480.00
	Total				**1,480.00**
			Sub-total		**$1,480.00**
			Total this Invoice		**$1,480.00**

Billings to Date

	Current	Prior	Total	Received	A/R Balance
Lump Sum Fee	1,480.00	23,680.00	25,160.00		
Totals	**1,480.00**	**23,680.00**	**25,160.00**	**18,600.00**	**6,560.00**

529
PAID
3/23/18

Authorized By: _____ Date: 3/14/18

Aaron D. Archer, P.E.

OUTSTANDING INVOICES FOR BOARD APPROVAL

INV DATE	VENDOR	INV #	DESCRIPTION	STATUS	AMOUNT
2/28/2018	Willatt & Flickinger, PLLC		February Legal	pending	$802.10
2/28/2018	Russell Corrosion Consultants	2303	Corrosion Testing/ examine stations 0-5000	pending	$3,200.00
2/28/2018	Walker Partners	14823	TCEQ Order/Sampling	pending	$1,480.00
3/1/2018	Kleberg County Appraisal District		2nd quarter payment	pending	$4,887.22
3/1/2018	Nueces County Appraisal District		2nd quarter payment	pending	$1,692.00
3/6/2018	Kevin Kieschnick-NC Tax Assessor		February per parcel fees	pending	$3,585.46
3/9/2018	City of Corpus Christi		February water usage	pending	$80,896.29
					$96,543.07

WILLATT & FLICKINGER, PLLC
ATTORNEYS AT LAW

12912 HILL COUNTRY BLVD., SUITE F-232 · AUSTIN, TEXAS 78738 · (512) 476-6604 · FAX (512) 469-9148

February 28, 2018

Ms. Carola Serrato
Executive Director
South Texas Water Authority
P.O. Box 1701
Kingsville, Texas 78364-1701

FOR PROFESSIONAL SERVICES RENDERED since the date of last billing:

GENERAL

BILL FLICKINGER

02/03/18 Receive, review and respond to emails from Carola Serrato related to last conference call with TCEQ on enforcement order deadlines and pending TCEQ requests. (0.4 Hours).

02/09/18 Telephone conference with Carola Serrato on status of Driscoll LAS installation / operation. (0.2 Hours).

02/13/18 Receive, review and respond to emails from Carola Serrato and Aaron Archer on SOPs requested by TCEQ in connection with engineering report. (0.2 Hours).

02/14/18 Receive and review emails from Carola Serrato to Shay Roalson and Aaron Archer on the Driscoll LAS. (0.4 Hours).

02/20/18 Telephone conference with Carola Serrato on Driscoll LAS project. (0.2 Hours).

02/22/18 Receive and review email from Carola Serrato to Shay Roalson on Driscoll LAS issues. (0.2 Hours).

02/26/18 Continue review of request for funding of water well screening project. Review Chapter 49, Texas Water Code and creation legislation in connection with same. (0.5 Hours). Telephone conference with Carola Serrato on status of Bishop Contract. (0.2 Hours).

02/28/18 Telephone conference with Carola Serrato on possible meeting with City of Bishop on water services agreement. (0.2 Hours).

Attorney BF: 2.5 Hours

JENIFFER CONCIENNE

02/27/18 Review exemptions for Form 1295 and HB89 provisions. Draft e-mail to Carola Serrato on same. (0.5 Hours).

Legal Assistant JC: 0.5 Hours

Attorney BF: 2.5 Hours @ $300.00 per hour	$750.00
Attorney MM: 0 Hours @ $300.00 per hour	
Legal Assistant JC: 0.5 Hours @ $95.00 per hour	$47.50

CLIENT EXPENSES

23 Photocopies @ $.20 each	$4.60		
		Total Client Expenses	$4.60
		TOTAL AMOUNT DUE	$802.10

Invoice

RUSSELL CORROSION CONSULTANTS
A wholly owned subsidiary of EN Engineering, LLC

February 28, 2018
Project No: 1795027.01
Invoice No: 0002303

Project Manager: Karl Norred
Ref. Number:
Invoice Total: $3,200.00

Russell Corrosion Consultants, LLC
Remit to: P.O. Box 6266
Carol Stream, IL 60197-6266
(P) (410) 997-4481
ACH - ABA #071925334, Acct #5741230227
Lake Forest Bank & Trust

South Texas Water Authority
P.O. Box 1701
Kingsville, TX 78364

Project 1795027.01 STWA Corrosion Assessment and Testing Examin Stations 0-5000
mcgserrato@stwa.org.

Professional Services from January 28, 2018 to February 24, 2018

Professional Personnel

	Hours	Rate	Amount	
Corrosion: Corrosion Practice Area Lead				
Szeliga, Michael	16.00	200.00	3,200.00	
Totals	16.00		3,200.00	
Total Labor				**3,200.00**

Billing Limits	**Current**	**Prior**	**To-Date**	
Total Billings	3,200.00	30,114.64	33,314.64	
Limit			65,000.00	
Remaining			31,685.36	
		Total this Invoice		**$3,200.00**

PAID

Billing Backup

Wednesday, February 28, 2018

Russell Corrosion Consultants, LLC Invoice 0002303 Dated 2/28/2018 12:59:16 PM

Project 1795027.01 STWA Corrosion Assessment and Testing Examin Stations 0-5000

Professional Personnel

			Hours	Rate	Amount	
Corrosion: Corrosion Practice Area Lead						
50002	Szeliga, Michael	2/6/2018	4.00	200.00	800.00	
	Analyses of data and preparation of report.					
50002	Szeliga, Michael	2/8/2018	8.00	200.00	1,600.00	
	Analyses of data and preparation of report.					
50002	Szeliga, Michael	2/9/2018	4.00	200.00	800.00	
	Analyses of data and preparation of report.					
	Totals		16.00		3,200.00	
	Total Labor					**3,200.00**

Total this Project **$3,200.00**

Total this Report **$3,200.00**

KLEBERG COUNTY APPRAISAL DISTRICT

P.O. BOX 1027 - 502 E. KLEBERG - KINGSVILLE, TEXAS 78364

PH. # (361) 595-5775 - FAX # (361) 595-7984

TO: South Texas Water Authority

FROM: Kleberg County Appraisal District

DATE: March 1, 2018

SUBJECT: 2018 Appraisal District Payment Information

The second payment from your taxing unit toward the 2018 Appraisal District Operating Budget is due to be paid by March 31, 2018. Thank you for your attention to this matter.

Original 2nd Qtr Amount Due:	$	5,213.19
2016 Operating Budget Credit:		$325.97
Amount due if paid by 3/31/2018:		$4,887.22

Amount due if paid after 3/31/2018: $5,172.31

	$	4,887.22	
+	$	244.36	(5% Penalty)
+	$	40.73	(10% Interest /Mo)
	$	5,172.31	

KLEBERG COUNTY APPRAISAL DISTRICT
2016 EXCESS FUNDS PRORATION
MARCH 9, 2017

DISTRICT	2016 % BUDGET	2016 EXCESS FUNDS	2016 EXCESS FUNDS PRORATION
KLEBERG COUNTY	31.246058%	$13,753.61	$4,297.46
CITY OF KINGSVILLE	17.348415%	$13,753.61	$2,386.03
SOUTH TEXAS WATER AUTHORITY	2.370085%	$13,753.61	$325.97
KINGSVILLE ISD	32.537472%	$13,753.61	$4,475.08
RICARDO ISD	4.439045%	$13,753.61	$610.53
RIVIERA ISD	6.149633%	$13,753.61	$845.80
SANTA GERTRUDIS ISD	5.804663%	$13,753.61	$798.35
KENEDY COUNTY GROUNDWATER CONSERVATION DISTRICT	0.104629%	$13,753.61	$14.39
TOTAL	100.000000%		$13,753.61

Nueces County Appraisal District
201 N. Chaparral, Ste. 206
Corpus Christi, Texas 78401-2503

Ramiro "Ronnie" Canales
Nueces County Chief Appraiser

Office: (361) 881-9978
Fax: (361) 887-6721
info@nuecescad.net

NUECES COUNTY APPRAISAL DISTRICT
2018 BUDGET ALLOCATION

INVOICE #033118

Taxing Unit:	So Texas Water Auth
Due Date:	March 31, 2018
2nd Quarter Amount Due:	$1,692

Nueces County Courthouse
901 Leopard, Suite 301
Corpus Christi, TX 78401

Administration
(361) 888-0307
(361) 888-0308

Kevin Kieschnick
Assessor and Collector of Taxes

March 6, 2018

South Texas Water District
C/O Carola Serrato
P.O. Box 1701
Kingsville, TX 78363

Fees for Collection of Ad Valorem Taxes
during the month of February 2018

Total collected parcels		2,583
Collection Fee per Parcel	POSTED	$1.3881
Total for FEBRUARY		$3,585.46

Please Make Checks Payable To:
Nueces County Tax Assessor-Collector

For information contact:	*Motor Vehicle*	*Property Tax*	*Voter Registration*
voice	*(361) 888-0459*	*(361) 888-0230*	*(361) 888-0404*
fax	*(361) 888-0482*	*(361) 888-0218*	*(361) 888-0339*

CITY OF CORPUS CHRISTI

Monthly Statement of Utility Services
City of Corpus Christi
P.O. Box 9257 • Corpus Christi, TX 78469-9097
(361) 826-CITY • www.cctexas.com

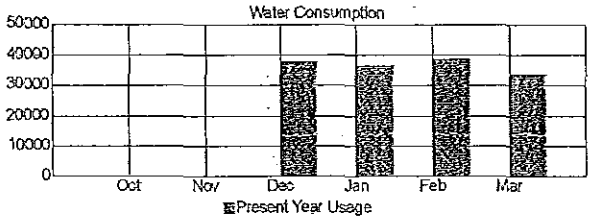
Account Name: SOUTH TX WATER AUTH
Account Number: 20004093
Service Address: 0 END DR WTR5 RAW
Account Type: PA
Bill Date: 03/09/2018

METER INFORMATION

Meter ID	Service Type	Current Read	Previous Read	Consumption 2/2018
WT200006	WA	4101700	4068000	33700

SERVICE PERIOD: 1/31/18 2/28/18 28 DAYS

CONSUMPTION HISTORY



ACCOUNT ACTIVITY

LAST BILL	$115,695.04
TOTAL PAID SINCE LAST BILL	-$93,024.09
ADJUSTMENTS	$0.00
BALANCE FORWARD DUE NOW	$22,670.95
NEW CHARGES	
WATER	$48,072.49
RWCA $0.974/TGAL	$32,823.80
TOTAL WATER	**$80,896.29**
PAY THIS AMOUNT BY 03/30/2018:	$80,896.29
ACCOUNT BALANCE	$103,567.24

PLEASE ALLOW 5 BUSINESS DAYS BEFORE DUE DATE TO ENSURE PROPER CREDIT.

RECEIVED
MAR 15 2018
SOUTH TEXAS WATER AUTHORITY

IMPORTANT MESSAGE

Thank you so much for your patience during our transition to the new billing system. If you have a concern regarding your bill, please do not hesitate to contact us at 826-CITY or by email at uboresolutions@cctexas.com. We apologize for the inconvenience.

POSTED

PLEASE FOLD ON PERFORATION BEFORE TEARING – RETURN BOTTOM PORTION WITH YOUR PAYMENT. MAKE CHECKS PAYABLE TO CITY OF CORPUS CHRISTI. INCLUDE ACCOUNT NUMBER ON THE CHECK.

CITY OF CORPUS CHRISTI

P.O. Box 9257 • Corpus Christi, TX 78469-9097
(361) 826-CITY • www.cctexas.com

Working to Serve You Better.

Account Number: 20004093
Service Address: 0 END DR WTR5 RAW
Cycle-Route #: 01-60

DUE DATE:	03/30/2018
AMOUNT DUE:	$103,567.24

1-1
SOUTH TX WATER AUTH
P O BOX 1701
KINGSVILLE TX 78364-1701

Remit to: **CITY OF CORPUS CHRISTI**
P.O. BOX 659880
SAN ANTONIO TX 78265-9143

When making payment in person, please bring entire statement.

20004093010356724B

SOUTH TEXAS WATER AUTHORITY
2012 BOND ELECTION

Cost of Bond Issuance:	**$107,386.40**	
Proposition #1: REGIONAL WATERLINE	**$1,900,000.00**	**36.54%**
Proposition #2: KINGSVILLE PUMP STATION	**$2,925,000.00**	**56.25%**
Proposition #3: BISHOP FACILITY	**$375,000.00**	**7.21%**
TOTAL BOND PROCEEDS:	**$5,307,386.40**	**100.00%**

Cost of Bond Issuance	
Financial Advisory Fee (First Southwest)	$30,385.00
Computer Structure Fee (for bidding securities)	$6,000.00
Bond Counsel - Leroy Grawunder (MP&H)	$39,000.00
Attorney General - State Fees and Review	$5,110.00
Standard & Poor's - Rating Agency	$11,000.00
Paying Agent - Bank processing bonds/paid semi annually	$200.00
Document Preparation/Printing	$5,000.00
Miscellaneous	$1,973.90
Accrued Interest - use to make first Debt Payment	$8,717.50
TOTAL Cost of Bond Issuance	$107,386.40

Proposition #1: REGIONAL WATERLINE
36.54%

	Engineer Estimate	Contract Amount	Percent Expended	Amount Expended	Amount Remaining
TOTAL PROPOSITION #1:	$1,900,000.00				
Construction: Lewis Construction		$1,035,100.00		$1,035,100.00	
Change Order #1		$4,320.85		$4,320.85	
Change Order #2		$30,815.17		$30,815.17	
Change Order #3		-$5,100.00		-$5,100.00	
Change Order #4		$13,954.16		$13,954.16	
		$1,079,090.18	100.00%	$1,079,090.18	
ROW Acquisition:		$60,541.31	100.00%	$60,541.31	
		$1,139,631.49		$1,139,631.49	$760,368.51
HDR Pipeline Condition Assessment		$105,900.00	100.00%	$105,900.00	
HDR LAS Booster -Driscoll		$71,100.00	97.47%	$69,300.00	
LAS Booster - Construction		$369,000.00			
Change Order #1		$45,586.84			
Change Order #2		$1,705.00			
Change Order #3		$10,650.00			
		$426,941.84	91.90%	$392,344.75	
Rock Engineering		$1,051.00		$1,051.00	
Rock Engineering		$2,026.00		$2,026.00	
				$395,421.75	
Non-Construction Related Costs:		$36,076.45	100.00%	$36,076.45	$0.00
TOTAL Proposition #1	$1,900,000.00	$1,782,726.78		$1,746,329.69	$116,222.22 *

* Estimated balance after Mercer/Driscoll LAS Project @ 100%

Proposition #2: KINGSVILLE PUMP STATION
56.25%

	Engineer Estimate	Contract Amount	Percent Expended	Amount Expended	Amount Remaining
ROW Acquisition:					
Construction Related Costs:					
Ground Storage Tank - PreLoad	$1,894,460.00	$1,248,602.55 *	100.00%	$1,206,897.95	
Final - Payment #8				$41,704.60	
				$1,248,602.55	$645,857.45
New Pumps - ACP	$327,378.00	$295,000.00		$295,000.00	
Change Order #1		$12,310.75		$12,310.75	
Odessa Pumps		$20,162.00		$20,162.00	
		$327,472.75	100.00%	$327,472.75	-$94.75
Emergency Generator	$0.00	$123,586.38	100.00%	$123,586.39	-$123,586.39
Engineering Costs:	$560,500.00				
Engineering - GST*		$234,800.00	100.00%	$234,800.00	
Engineering - GST additional work by HDR		$48,000.00	100.00%	$48,000.00	
Engineering - Pump Station		$91,600.00	100.00%	$91,600.00	
Rock Engineering, Inc.				$1,121.00	
LNV - Generator		$30,000.00	100.00%	$30,000.00	
				$405,521.00	$154,979.00
Non-Construction Related Costs:	$122,500.00	$60,404.85		$60,404.85	$62,095.15
TOTAL Proposition #2	$2,904,838.00	$2,164,466.53		$2,165,587.54	$739,250.46

*Reduced by Change Order #1

Proposition #3: BISHOP FACILITY
7.21%

		Engineer Estimate	Contract Amount	Percent Expended	Amount Expended	Amount Remaining
Construction:	Mercer	$277,100.00	$109,900.00	100.00%	$117,596.50	$159,503.50
Change Order:	Painting building		$3,996.00			
	Change to WYE		$3,700.00			
			$117,596.00			
Construction Related Costs:		$69,300.00	$52,200.00	100.00%	$52,200.00	$17,100.00
LNV Engineering						
Non-Construction Related Costs:		$28,600.00	$13,330.35	100.00%	$13,330.35	$15,269.65
	TOTAL Proposition #3	$375,000.00	$183,126.35		$183,126.85	$191,873.15
					TOTAL	**$1,047,345.83**

ANTICIPATED (BUDGETED) vs. ACTUAL WATER RATE CHARGED

	ANTICIPATED (BUDGETED) CHARGES			ACTUAL CHARGES			Difference:
	Handling Charge	CC Cost	Total	Handling Charge	CC Cost	Total	Actual vs. Budgeted
Oct-17	$0.426386	$2.4362	$2.8626	$0.426386	$2.312247	$2.738633	-$0.1239
Nov-17	$0.426386	$2.4380	$2.8644	$0.426386	$2.316174	$2.742560	-$0.1218
Dec-17	$0.426386	$2.4383	$2.8647	$0.426386	$2.349496	$2.775882	-$0.0888
Jan-18	$0.426386	$2.4381	$2.8645	$0.426386	$2.397528	$2.823914	-$0.0405
Feb-18	$0.426386	$2.4398	$2.8662	$0.426386	$2.400483	$2.826869	-$0.0393
Mar-18	$0.426386	$2.4376	$2.8640	$0.426386		$0.426386	-$2.4376
Apr-18	$0.426386	$2.4359	$2.8623	$0.426386		$0.426386	-$2.4359
May-18	$0.426386	$2.4358	$2.8622	$0.426386		$0.426386	-$2.4358
Jun-18	$0.426386	$2.4350	$2.8614	$0.426386		$0.426386	-$2.4350
Jul-18	$0.426386	$2.4335	$2.8599	$0.426386		$0.426386	-$2.4335
Aug-18	$0.426386	$2.4330	$2.8594	$0.426386		$0.426386	-$2.4330
Sep-18	$0.426386	$2.4360	$2.8624	$0.426386		$0.426386	-$2.4360
Avg Cost	$0.426386	$2.4364	$2.8628	$0.426386	$2.355186	$2.781572	-$0.0813

ANTICIPATED (BUDGETED) vs. ACTUAL WATER USAGE

All Customers	Budgeted	Actual	Difference
Oct-17	43,106,064	49,257,770	6,151,706
Nov-17	39,010,208	41,240,370	2,230,162
Dec-17	38,272,268	37,196,850	-1,075,418
Jan-18	39,270,789	41,006,500	1,735,711
Feb-18	35,570,793	38,505,650	2,934,857
Mar-18	39,754,343	0	
Apr-18	43,693,987	0	
May-18	44,073,875	0	
Jun-18	46,279,865	0	
Jul-18	50,891,700	0	
Aug-18	52,856,325	0	
Sep-18	43,581,741	0	
TOTAL	516,361,957	207,207,140	11,977,018

NWSC	Budgeted	Actual	Difference
Oct-17	11,406,490	13,839,280	2,432,790
Nov-17	10,288,004	12,528,080	2,240,076
Dec-17	10,329,528	11,526,840	1,197,312
Jan-18	10,835,370	13,263,230	2,427,860
Feb-18	9,334,104	11,186,170	1,852,066
Mar-18	10,296,803	0	
Apr-18	11,536,949	0	
May-18	12,015,101	0	
Jun-18	12,879,697	0	
Jul-18	14,328,969	0	
Aug-18	14,308,455	0	
Sep-18	12,438,360	0	
TOTAL	139,997,830	62,343,600	10,150,104

Kingsville	Budgeted	Actual	Difference
Oct-17	10,188,919	13,323,000	3,134,081
Nov-17	10,188,919	8,716,000	-1,472,919
Dec-17	10,188,919	6,734,000	-3,454,919
Jan-18	10,188,919	7,519,000	-2,669,919
Feb-18	10,188,919	8,188,000	-2,000,919
Mar-18	10,188,919	0	
Apr-18	10,188,919	0	
May-18	10,188,919	0	
Jun-18	10,188,919	0	
Jul-18	10,188,919	0	
Aug-18	10,188,919	0	
Sep-18	10,188,919	0	
TOTAL	122,267,026	44,480,000	-6,464,594

RWSC	Budgeted	Actual	Difference
Oct-17	8,892,000	8,533,000	-359,000
Nov-17	7,675,200	7,776,000	100,800
Dec-17	7,091,800	7,006,000	-85,800
Jan-18	7,211,600	6,986,000	-225,600
Feb-18	6,276,600	5,462,000	-814,600
Mar-18	8,122,200	0	
Apr-18	9,168,400	0	
May-18	9,261,200	0	
Jun-18	10,412,600	0	
Jul-18	11,164,600	0	
Aug-18	11,785,400	0	
Sep-18	8,403,600	0	
TOTAL	105,465,200	35,763,000	-1,384,200

Bishop	Budgeted	Actual	Difference
Oct-17	5,417,400	5,521,000	103,600
Nov-17	4,275,800	4,247,000	-28,800
Dec-17	4,314,400	4,005,000	-309,400
Jan-18	4,635,200	4,873,000	237,800
Feb-18	3,702,800	6,598,000	2,895,200
Mar-18	4,623,400	0	
Apr-18	5,871,600	0	
May-18	5,176,600	0	
Jun-18	4,661,600	0	
Jul-18	6,609,800	0	
Aug-18	8,080,400	0	
Sep-18	5,338,000	0	
TOTAL	62,707,000	25,244,000	2,898,400

Banquete	Budgeted	Actual	Difference
Oct-17	2,393,856	2,107,860	-285,996
Nov-17	2,168,468	1,979,060	-189,408
Dec-17	2,078,142	2,033,820	-44,322
Jan-18	2,037,054	2,288,560	251,506
Feb-18	1,971,256	1,929,340	-41,916
Mar-18	2,043,050	0	
Apr-18	2,106,092	0	
May-18	2,278,536	0	
Jun-18	2,477,094	0	
Jul-18	2,533,790	0	
Aug-18	2,561,114	0	
Sep-18	2,232,010	0	
TOTAL	26,880,462	10,338,640	-310,136

Driscoll	Budgeted	Actual	Difference
Oct-17	2,440,991	3,788,900	1,347,909
Nov-17	2,318,365	3,995,000	1,676,635
Dec-17	2,240,349	3,669,100	1,428,751
Jan-18	2,422,620	3,925,000	1,502,380
Feb-18	2,237,900	3,316,400	1,078,500
Mar-18	2,467,160	0	
Apr-18	2,610,900	0	
May-18	2,832,220	0	
Jun-18	3,105,320	0	
Jul-18	3,369,200	0	
Aug-18	3,091,193	0	
Sep-18	2,683,790	0	
TOTAL	31,820,009	18,694,400	7,034,175

Agua Dulce	Budgeted	Actual	Difference
Oct-17	2,366,408	2,144,730	-221,678
Nov-17	2,095,452	1,999,230	-96,222
Dec-17	2,029,130	2,222,090	192,960
Jan-18	1,940,026	2,151,710	211,684
Feb-18	1,859,214	1,825,740	-33,474
Mar-18	2,012,811	0	
Apr-18	2,211,127	0	
May-18	2,321,299	0	
Jun-18	2,554,636	0	
Jul-18	2,696,422	0	
Aug-18	2,840,844	0	
Sep-18	2,297,062	0	
TOTAL	27,224,431	10,343,500	53,270

Kingsville Actual Usage vs. Bell Chart Volume

	Target Volume	Actual Volume	Difference
Oct-17	12,451,513	13,323,000	871,487
Nov-17	7,362,963	8,716,000	1,353,037
Dec-17	5,893,607	6,734,000	840,393
Jan-18	4,650,000	7,519,000	2,869,000
Feb-18	6,760,471	8,188,000	1,427,529
Mar-18	8,319,028	0	
Apr-18	10,906,161	0	
May-18	12,497,858	0	
Jun-18	14,240,055	0	
Jul-18	15,711,155	0	
Aug-18	15,911,986	0	
Sep-18	13,866,300	0	
TOTAL	128,571,097	44,480,000	7,361,446

Net Revenue per Thousand (1,000) Gallons

Kingsville	Actual	Net Rev	Per 1000g
Oct-17	13,323,000	$4,456.79	$0.3345
Nov-17	8,716,000	$2,145.93	$0.2462
Dec-17	6,734,000	$1,213.48	$0.1802
Jan-18	7,519,000	$2,137.00	$0.2842
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	36,292,000	$9,953.20	$0.2743

NWSC	Actual	Net Rev	Per 1000g
Oct-17	13,839,280	$3,919.47	$0.2832
Nov-17	12,528,080	$3,932.40	$0.3139
Dec-17	11,526,840	$3,182.96	$0.2761
Jan-18	13,263,230	$3,938.08	$0.2969
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	51,157,430	$14,972.91	$0.2927

Bishop	Actual	Net Rev	Per 1000g
Oct-17	5,521,000	$1,015.42	$0.1839
Nov-17	4,247,000	$425.49	$0.1002
Dec-17	4,005,000	$608.07	$0.1518
Jan-18	4,873,000	$1,017.40	$0.2088
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	18,646,000	$3,066.38	$0.1645

RWSC	Actual	Net Rev	Per 1000g
Oct-17	8,533,000	$538.11	$0.0631
Nov-17	7,776,000	$1,907.85	$0.2454
Dec-17	7,006,000	$1,660.87	$0.2371
Jan-18	6,986,000	$1,612.65	$0.2308
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	30,301,000	$5,719.48	$0.1888

Driscoll	Actual	Net Rev	Per 1000g
Oct-17	3,788,900	$847.98	$0.2238
Nov-17	3,995,000	$979.64	$0.2452
Dec-17	3,669,100	$945.70	$0.2577
Jan-18	3,925,000	$1,090.72	$0.2779
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	15,378,000	$3,864.04	$0.2513

Banquete	Actual	Net Rev	Per 1000g
Oct-17	2,107,860	$243.69	$0.1156
Nov-17	1,979,060	$386.16	$0.1951
Dec-17	2,033,820	$295.27	$0.1452
Jan-18	2,288,560	$473.32	$0.2068
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	8,409,300	$1,398.44	$0.1663

Agua Dulce	Actual	Net Rev	Per 1000g
Oct-17	2,144,730	$475.40	$0.2217
Nov-17	1,999,230	$477.13	$0.2387
Dec-17	2,222,090	$387.81	$0.1745
Jan-18	2,151,710	$512.72	$0.2383
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	8,517,760	$1,853.06	$0.2176

All Customers	Actual	Net Rev	Per 1000g
Oct-17	49,257,770	$11,496.86	$0.2334
Nov-17	41,240,370	$10,254.60	$0.2487
Dec-17	37,196,850	$8,294.16	$0.2230
Jan-18	41,006,500	$10,781.89	$0.2629
Feb-18	0		#DIV/0!
Mar-18	0		#DIV/0!
Apr-18	0		#DIV/0!
May-18	0		#DIV/0!
Jun-18	0		#DIV/0!
Jul-18	0		#DIV/0!
Aug-18	0		#DIV/0!
Sep-18	0		#DIV/0!
TOTAL	168,701,490	$40,827.51	$0.2420

INTER-OFFICE MEMO

TO: Carola G. Serrato, Executive Director
FROM: Jacob Hinojosa, O&M Supervisor
DATE: March 22, 2018
RE: Maintenance & Technical Report

During the week of February 19, 2018, the following work was completed.

- Safety Meeting for all Field Techs.
- Exercised generators, downloaded GPS reports and performed line locates.
- Met with Mercer Construction at Driscoll Pump Station.
- Replaced lights/ballasts in the office.
- Installed locks on the frost proof hydrants installed for sampling.
- Took samples for Driscoll Booster Station Project.
- Installed GPS unit on new truck.
- Mowed pump stations.
- Installed more frost proof hydrants for sample locations.
- Replaced hose connections for the booster pumps at Central Pump Station.
- Took Unit 2 to get brakes and tune-up.
- Took Unit 7 to get windshield replaced.
- Mercer Controls came in to work on Act Paks.

During the week of February 26, 2018, the following work was completed.

- Safety Meeting for all Field Techs.
- Exercised generators, downloaded GPS reports and performed line locates.
- Replaced locks on frost proof hydrants.
- Took residuals for the Driscoll Booster Station Project.
- Worked on Tier II report.
- Took Bac-T water samples.
- Took mini track hoe to get periodic maintenance service.
- Dropped off old electronics to get recycled.
- Performed colorimeter calibration.
- Checked on damaged test station in back of office.
- Mowed grass at Kingsville office.
- Took haul trailer to get inspected.
- All Field Techs attended a class on how to use the new DM2 locator.
- Cleaned awning at the office.
- Delivered chlorine to the pump stations.

During the week of March 5, 2018, the following work was completed.

- Safety Meeting for all Field Techs.
- Exercised generators, downloaded GPS reports and performed line locates.
- Took residuals for the Driscoll Booster Station Project.
- Dropped off Unit 5 (new truck) at dealership. Unit broke down – dealership indicated "Charge air inlet clamp not installed properly from factory."
- Picked up registrations for Units 5 and 6 and trailer at courthouse.
- Took Unit 6 to get an oil change.
- Took Unit 4 to the shop to check on oil problem.
- Took Unit 6 to dealership to troubleshoot turbos.
- Took residual samples on 42" pipeline.
- Check on power failure alarms for Agua Dulce, Sablatura Park and Banquete Pump Stations.

During the week of March 12, 2018, the following work was completed.

- Safety Meeting for all Field Techs.
- Exercised generators, downloaded GPS reports and performed line locates.
- Took residuals for the Driscoll Booster Station Project.
- Took Unit 3 to get brakes worked on.
- Performed electrical troubleshooting on pump #1 at Driscoll Pump Station. Found motor and capacitors were bad. Installed new motor.
- Took Unit 2 to get oil change.
- Took Nitrate/Nitrite samples at maximum age sites, Kingsville and Agua Dulce.

ATTACHMENT 3

TCEQ Enforcement Action

Memorandum

To: South Texas Water Authority Board of Directors
From: Carola G. Serrato, Executive Director
Date: March 23, 2018
Re: Texas Commission on Environmental Quality (TCEQ) Enforcement Action

Background:

Enclosed is recent communication pertaining to the Enforcement Order. Additional information can be found in the agenda item related to the HDR Engineering, Inc. proposal for services related to developing an SOP on the Disinfectant Booster Stations. Staff is pleased to report that the TCEQ has approved the Engineering Report contingent on making modifications to the Standard Operating Procedures SOPs). As reported in a recent Weekly Update, the majority of those modifications have already been made.

In addition, attached are extension request letters as a result of status of the Driscoll LAS project and the Engineering Report. Additional details on the Driscoll LAS project are included in the memo for that agenda item. However, suffice to say that the project could not be certified as being complete and operating as designed. With regards to the Engineering Report, SOPs required by the TCEQ are now included in the Engineering Report as an appendix. At this time, staff is not certain whether this extension letter will be dismissed by the TCEQ as no longer being necessary.

Analysis:

As reported previously, monthly conference calls continue to occur with numerous TCEQ staff. In addition to my participation, Jacob Hinojosa, STWA O&M Supervisor, Aaron Archer, Walker Partners, and Bill Flickinger, Willatt and Flickinger, also participate on the calls. The calls continue to be helpful.

Although all of the discussion is important, during the last call, two (2) items warrant mention. First, in a previous call, the TCEQ questioned the change in the number of residual readings being reported by Mr. Hinojosa as part of the typical quarterly reporting. The decrease in number is related directly to the revised Monitoring Plan that the TCEQ recently approved. During this last call, one of the TCEQ staff persons made it clear to his colleagues that STWA is in compliance and following the Monitoring Plan.

The second significant discussion is that STWA has been in compliance since October 2017 with the 0.5 mg/l residual requirement which was the main reason for the Enforcement Action. It's important to note that STWA was actually meeting the requirement prior to October; however, that is the month that the forms being used to record residuals were approved by the TCEQ. This means that four (4) out of twelve (12) months are in compliance. STWA needs to have 12 months of compliance by November of 2018.

Staff Recommendation:

Keep the Board updated on the TCEQ Order.

Board Action:

Provide feedback to staff and consultants.

Summarization:

The TCEQ residual requirement is heavily dependent on the satisfactory operation of the Driscoll Disinfectant Booster Station, the Corpus Christi water quality, and a sufficient flow of water in the 42" line.

STWA

SOUTH TEXAS WATER AUTHORITY
P. O. BOX 1701
KINGSVILLE, TEXAS 78364-1701

March 7, 2018

**VIA EMAIL AND CERTIFIED MAIL,
RETURN RECEIPT REQUESTED**

Order Compliance Team
Texas Commission on Environmental Quality
Enforcement Division, MC 149A
P.O. Box 13087
Austin, Texas 78711-3087
Attn: Mr. Michael Tucker

Water Supply Division, MC 154
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: South Texas Water Authority's Request for Extension of Deadlines; An Order in Regard to the Enforcement Action; TCEQ Docket No. 2011-1647-PWS-E, SOAH Docket No. 582-12-5353

Dear Mr. Tucker:

On behalf of South Texas Water Authority (the "Authority"), I am hereby writing to request that the Executive Director grant an extension of the deadline in the following section of the above-captioned Order. This request is being submitted pursuant to Section 12 of the Order.

Section 9(a): On May 23, 2017 with the adoption of Resolution 17-09, the Authority contracted with Mercer Controls, Inc. for the construction of a Liquid Ammonium Sulfate (LAS) system in the amount of $426,941.84, the revised contract amount to date including Change Orders. This system will work in conjunction with the existing Free Chlorine system to boost the chloramine residual directly into South Texas Water Authority's 42" waterline. As part of the project, a 1-ton chlorine cylinder replaced the 150 lb. chlorine cylinders used by the existing system when adding small chlorine doses to combine with any free available ammonia. This project was scheduled to be substantially complete by the end of December 2017.

However, according to written correspondence from Mr. Sherrel Mercer, Mercer Controls, Inc., at least a month's delay is as the result of his company responding to emergency services after Hurricane Harvey hit the South Texas Coast on August 25, 2017.

The new LAS system was placed in service over the Christmas and New Year's holidays; but, it worked sporadically. On January 19th, Authority personnel attended a training

session presented by Mr. Mercer on the operation of the new LAS system. During the training, it became evident that there were problems with the regulator on the one-ton cylinder. By a month later, February 20th, multiple regulators had been installed and the system had been operated in an alternating manner between the one-ton cylinder and the 150 lb. cylinders.

As requested by Mr. Mercer, the Authority made arrangements with the vendor to have the one-ton cylinder replaced. This action was based on Mr. Mercer's written report of a viscous, orange substance found in one of the aforementioned regulators. Based on my explanation for the replacement request with the chlorine supplier's local management, the vendor determined that an inspection and testing should be conducted on the one-ton cylinder. Their resulting report indicates that there was not any corrosion or other problem(s) with the one-ton cylinder.

From February 20th to date, the system has been operating on the replacement one-ton cylinder. However, based on Project Engineer Shay Roalson's recommendation, the Authority Board withheld funds from Mercer's Pay Request #5 considered during the February 27th Board meeting. Pay Request #5 was for the entire remaining balance of the contract with the exception of retainage. It warrants mention that in addition to the issues with the various regulators and one-ton cylinder, corrections to leaking fittings and computer programming have also been required; those items appear to have been corrected.

At this juncture, if the system continues to operate as required, I anticipate that the project will be considered complete and accepted as such by the Board during the March 27th Board meeting contingent on Ms. Roalson's recommendation. Once accepted by the Board, I believe Ms. Roalson will consider it appropriate to provide the required certification of completion.

Please advise if further information is needed to process this request. Mercer Control, Inc. correspondence describing the reason for delays and the request to replace the one-ton cylinder, the chlorine vendor's one-ton cylinder report, and submitted pay requests are available.

In conclusion, since the Authority is unable to meet the deadline in the Order due to reasons stated above, the Authority respectfully requests the Section 9(a) deadline be extended to April 16, 2018.

Sincerely,

Carola G. Serrato
Executive Director

CGS//

STWA

SOUTH TEXAS WATER AUTHORITY

P. O. BOX 1701

KINGSVILLE, TEXAS 78364-1701

March 19, 2018

VIA EMAIL AND CERTIFIED MAIL,
RETURN RECEIPT REQUESTED

Order Compliance Team
Texas Commission on Environmental Quality
Enforcement Division, MC 149A
P.O. Box 13087
Austin, Texas 78711-3087
Attn: Mr. Michael Tucker

Water Supply Division, MC 154
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: **South Texas Water Authority's Request for Extension of Deadlines; An Order in Regard to the Enforcement Action; TCEQ Docket No. 2011-1647-PWS-E, SOAH Docket No. 582-12-5353**

Dear Mr. Tucker:

On behalf of South Texas Water Authority (the "Authority"), I am hereby writing to request that the Executive Director grant an extension of the deadline in the following section of the above-captioned Order. This request is being submitted pursuant to Section 12 of the Order.

Section 8(f): On January 5, 2018 the required Engineering Report was submitted per Section 8(f) of the Order. On Friday, January 26, 2018, Aaron Archer, Walker Partners, was contacted by Craig Stowell, TCEQ, Water Supply Division, Plan Review Team, regarding Standard Operating Procedures (SOP). According to Mr. Stowell's email the TCEQ believes "that SOPs are an important step between this report and completing tasks in the field." The following is the exact list from said email:

- Sampling for Bac-Ts and residuals;
- Boosting at Driscoll;
- Flushing; and
- How and when to do a chlorine burn.

On Tuesday, January 30, 2018, Mr. Archer responded to Mr. Stowell that STWA, with his assistance, would develop a SOP for the free chlorine burn. Further, he indicated that Shay Roalson, HDR Engineering, Inc. (HDR) would prepare the SOP for the boosting at the Driscoll Disinfectant Booster Station. STWA would write the Bac-T and residuals SOP. He requested additional clarification on the SOP for flushing.

On February 13, 2018, Mr. Archer, in response to an inquiry by Mr. Stowell, reported that the SOPs would be submitted with the Quarterly Report due on February 20, 2018. In response, Mr. Stowell questioned whether Mr. Archer would be submitting "a revision to the engineering report with [the] SOPs?" Further, he indicated that the Engineering Report "is a logged in plan submittal." Finally, Mr. Stowell indicated that if he received "everything on February 20th, we should be good with time."

As such, per that email, on February 20, 2018 the Quarterly Report was submitted with a revised Engineering Report including Appendix G - SOPs. The SOPs in Appendix G were the following:

- Bacteriological Sampling,
- Sampling for Total Chlorine Residual,
- Sampling for Free Chlorine Residual,
- Sampling for Monochloramine Residual,
- Sampling for Ammonia Residual,
- Chloramine Boosting – Driscoll Disinfectant Booster Station,
- Flushing of 42" waterline
- Overflow of Ground Storage Tanks, and
- Performing a Free Chlorine Burn.

On Monday, March 5, 2018, Mr. Stowell indicated that "[T]he report is fine but we do have a lot of comments on the SOPs." He suggested that the subject could be discussed during the March 6th conference call. Mr. Stowell's email was organized into 5 sections:

1. **Title Page, Approval Page and Sign-off Page** – *These items are done.*
2. **Flushing/Overflow of Ground Storage Tank (GST) SOP** – Items related to AWWA C655, dechlorination, chloramine/ammonia residuals of discharged water, periodic residual sampling, and time period of flushing – *These items have been addressed in addition to adding language to reflect draining of a GST as opposed to overflowing of a GST.*
3. **Free Chlorine Burn SOP** – Items related to terminology, DBP notice to wholesale customers, method of notification to customers, language correlating to STWA's NAP and notice to TCEQ when a Reversion is complete – *These items are done.*
4. **Bacteriological (Coliform) Sample Collection SOP** – The items were for the most part clarification in nature (4a – 4g) with the exception of 4h which required some additional language regarding repeat Bacteriological Sampling. *These items are done.*
5. **Boosting at Driscoll SOP** – *The comments on this SOP will require considerable expansion and modification.* The original SOP was provided by HDR as the firm that designed the Driscoll Disinfectant Booster Station – chlorine and LAS construction phases. At this time, STWA is awaiting a proposal from HDR to modify the SOP. This proposal will be presented to the STWA Board for approval. Meanwhile, STWA staff has made in-house modifications.

Finally, there are two (2) important factors that warrant mention. First, prior to the submittal of the Engineering Report, inquiries were made about the necessary substance. TCEQ staff made no mention of SOPs. And, most recently, during a March 13th conference call with Mr. Stowell, another SOP was added to the list, namely a Central Pump Station Disinfectant Booster Station SOP.

In conclusion, since the Engineering Report is considered incomplete, the Authority respectfully requests the Section 8(f) deadline be extended to April 20, 2018.

Sincerely,

Carola G. Serrato
Executive Director

CGS//

ATTACHMENT 4

Assessment of 42" Waterline – Russell Corrosion Projects

Memorandum

To: South Texas Water Authority Board of Directors
From: Carola G. Serrato, Executive Director
Date: March 23, 2018
Re: EN Engineering/Russell Corrosion Consultants, LLC (Russell) Services for Examination of Section 0 – 5000 LF and In-house Cathodic Protection Upgrades

Background:

Last month staff reported that the final report from Russell was close to being complete. Enclosed is the final Russell Report. Last month, there was also a discussion about the draft report's recommendations to (1) add an anode at every other joint – those currently without an anode and (2) establish continuity by bonding that same joint.

In addition, the draft report estimated that recommended work performed by an outside company on the section examined (5000 lf) would cost about $150,000. During last month's discussion, it was agreed, based on a quick calculation of the remaining $1.0M in bond funds divided by the 28 miles of 42" waterline, that hiring an outside firm to perform the work would deplete the bond funds after about 7 miles.

Staff reminded the Board that in the past STWA had performed CP improvements in-house. However, staff also indicated that the work load from the Corporations had increased significantly as a result of both Nueces and Ricardo Water Supply Corporations' growth – NWSC originally having about 250 customers and RWSC originally having about 300 customers with current membership of approximately 925 and 1000 respectively. Staff also pointed out that added to the field personnel's workload are the TCEQ requirements related to monitoring and testing.

Analysis:

As part of the last month's meeting discussion, staff indicated that at least two (2) persons would be needed with certain skill sets to devote to the recommended CP improvements. As researched previously, the cost of payroll, employee benefits, materials, and equipment would be eligible for payment from bond proceeds provided detailed documentation of employees' hours/tasks are kept.

The Board instructed staff to develop an estimated cost of hiring two (2) additional field technicians with welding and equipment operating skills. Staff has estimated the **annual** cost for two (2) technicians earning a combined hourly salary of $50.00 including benefits and associated payroll costs – medical, dental, LTD/ADD insurance, retirement, workers comp insurance, unemployment (Texas Workforce) and Medicare – is just under $160,000. Although this cost is slightly more than the estimated cost in the Russell Report to address approximately 70 joints in about a 1-mile stretch, it is also the cost for an entire year's worth of work.

Past experience from earlier CP work showed a typical day would result in two (2) to three (3) excavations being done depending on the depth of the line and if there were any problems with the diaper, etc. This translates to an average of 12.5 joint upgrades/added anodes per week, or about 650 in a year. If the $1.0M pays for six (6) years of this work, approximately 3900 upgrades/anodes can be accomplished.

Although the average joint length for Contracts 1 and 3 are slightly different from Contract 2, using an average length of 65 LF for two (2) joints (since one has already been addressed) results in covering about 48 miles of line (65 LF X 3900 upgrades ÷ 5280 feet/mile). This exceeds the distance of the 42" line by about 20 miles.

Finally, the factor staff believes will be the biggest hurdle is finding candidates with the necessary skills for an average hourly salary of $25.00.

Staff Recommendations:

Consider hiring two (2) additional field technicians to work on the 42" waterline CP upgrades. Approve the Final Report from Russell Corrosion Consultants.

Board Action:

Provide feedback to staff.

Summarization:

Performing the work in-house by two employees devoted to the job will save STWA funds and utilize the remaining bond money in the most efficient manner.

Final Russell Corrosion Report

STWA was contacted by Russell Corrosion Consultants, LLP (Russell) late Friday, March 23rd requesting a **retraction** of the Final Report included as part of this agenda item. On Russell's behalf, STWA is asking that any printed copy be **destroyed** and/or any digital copy be **deleted**. According to Russell, the file provided was NOT the Final version and it had not been authorized for distribution by the author, Mr. Michael Szeliga. Mr. Szeliga has indicated that the correct report will be available by today, Monday, March 26, 2018.

ATTACHMENT 5

Driscoll LAS Project

Memorandum

To: South Texas Water Authority Board of Directors
From: Carola G. Serrato, Executive Director
Date: March 22, 2018
Re: Driscoll Disinfection Booster Station – Conversion to Chloramination System

Background:

Enclosed are the latest emails related to the construction of the Driscoll LAS station. As reported previously, staff had reported that on January 15th the LAS system was in service. However, as described in several Weekly Updates and last month's Board agenda memo, the system has not operated as expected.

Analysis:

As you can see from the email to Ms. Shay Roalson, HDR Engineering, Inc. (HDR), it is my opinion that the root of the problem were two (2) formula errors for the injection of the Chlorine and LAS. It is a significant difference to calculate the dosage based on 60 minutes versus the correct 1440 minutes in a day.

As of today, there (again) is not any close-out paperwork for approval. The Board will recall that last month, based on a recommendation from Ms. Roalson, Mercer Control's (Mercer) full payment request in the amount of $46,217.50 was not paid. Rather, $13,250 was withheld as possible liquidated damages. As reported last month, these matters were discussed with legal counsel, Bill Flickinger.

In last month's memo, there were three (3) items outlined. First, there was a concern that another company would need to be hired to fix the problems. At this time, the system is operating in a fashion that is much closer to the expectations.

The second concern is based on the past experience whereby HDR invoiced for additional time as a result of Mercer not completing the Driscoll Pump Station expansion project within the allotted time. Ms. Roalson has assured me (verbally) that will not occur.

Finally, staff believes that the timing of this system properly operating is critical to complying with the TCEQ Order. As mentioned in the agenda item pertaining to that Order, STWA must have twelve (12) months of compliance of the minimum disinfectant residual. Recent results show that Monochloramine and Total Chlorine levels are now being boosted by the Driscoll Disinfectant Booster Station; however, very recent results also show that the Free Available Ammonia (FAA) is higher than the desired result. This may or may not be due to the settings which have been adjusted. Only time will tell.

Staff Recommendation:

Without a recommendation from HDR, staff is reluctant to make any recommendations about the final payment and release of retainage to Mercer. It is my opinion that Mercer should be responsible for reimbursing STWA for the cost of the one-ton cylinder which was removed prematurely – a cost of just under $1000. In addition, my preference is to have at least two (2) weeks of the system operating in a manner that (1) boosts the Chloramine residual, (2) exhibits an acceptable level of FAA, and (3) utilizes the expected pounds per day of Chlorine and Ammonia based on the 4:1 ratio.

Board Action:

Provide feedback to staff. Should a recommendation from HDR be available by the meeting, review and consider the recommendation.

Summarization:

This project has numerous factors that can contribute to the system operating as designed. The quality of the water received from the City of Corpus Christi, water age as a result of the volumes of water taken by the City of Bishop, the City of Kingsville, and the Ricardo Water Supply Corporation, the actual chlorine and ammonia equipment, the flow device installed in the 42" line, and the behind the scenes computer programming that adjusts the amount of chemicals being injected are the major ones. Therefore, although staff is not pleased about the delays in the completion of the project, staff recognizes that this is a complex endeavor.

mcgserrato@stwa.org

From: Roalson, Shay <Shay.Roalson@hdrinc.com>
Sent: Friday, March 23, 2018 12:09 PM
To: 'mcgserrato@stwa.org'
Subject: RE: Screen Shots of Formulas

Carola –

We are in the process of reviewing all the data, the dates things were changed, and the screenshots of Mercer's current formulas. I will let you know when we have completed our analysis.

Thanks,
Shay

Shay Ralls Roalson, PE
D 512.912.5106 M 512.426.9847

Texas TBPE Firm No. F-754

From: mcgserrato@stwa.org [mailto:mcgserrato@stwa.org]
Sent: Thursday, March 22, 2018 12:22 PM
To: Roalson, Shay
Cc: Beroset, Shaun D.; Singer, Lisa; 'Dony Cantu'; 'Frances Rosales'; 'Jacob Hinojosa'; 'Jo Ella Wagner'
Subject: Screen Shots of Formulas
Importance: High

Shay,

Attached are screenshots John Gross, Mercer's subcontractor, pulled up this morning when Jacob, Dony and I were speaking to him (on speaker phone) about the changes that were made on March 14th. As mentioned in my voice mail to you, the highlighted figure 1440 (which was highlighted using the Adobe app) was previously 60. So the program was operating off of 60 minutes in a day instead of the constant 1440.

John provided that information after I explained that I am writing a memo for next week's Board meeting (Tuesday, March 27th). I asked if the only change made on March 14th was to eliminate the programming language that would smooth out the peaks/valleys on the flow rates. He responded that was not the case. He was working on another problem remotely at the time. He proceeded to pull up the two formulas, which Jacob photographed using his phone. I believe he indicated that Mr. Mercer provided the formulas.

So, I don't see how the system could ever be considered operating as designed before March 14th if the wrong constant was being used.

Carola

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

OptoScript - CL2_LAS_Pump_Control - Calculate Control Setpoints - Block 210

Actions | Conditions | Variables | Test Compile

OptoScript Code:

```
CL2_feed_to_CL2 = (CBPC_CL2_DOSAGE*8.34*(MAIN_LINE_FLOW*1440)/1000000);
```

OptoScript - CL2_LAS_Pump_Control - LAS conversions - Block 142

Actions | Conditions | Variables | Test Compile

OptoScript Code:

```
LAS_dosage = (CL2_residual_desired/NH3_ratio) - (NH3_residual);

LAS_feed_rate = (LAS_dosage * 8.34 * MAIN_LINE_FLOW * 1440)/(LAS_concentration*1000000);

LAS_PUMP_SPD_SETPT = (LAS_feed_rate * 100) / (LAS_pump_max_flow_rate);
```

mcgserrato@stwa.org

From:	mcgserrato@stwa.org
Sent:	Thursday, March 22, 2018 11:49 AM
To:	Walker, Katie; Roalson, Shay
Cc:	Aaron Archer; 'Dony Cantu (dcantu@stwa.org)'; 'Frances Rosales'; 'Jacob Hinojosa'; 'Jo Ella Wagner'
Subject:	FW: Latest Before - After Results
Attachments:	DR LAS Before After Results Thr 03222018.xlsx

Today's results still show the FAA is too high at the off-site vault and CR 16. Jacob is have the NH3 set at 0.28 to match the incoming amount from CC. The chemicals used from yesterday to today were 15 pounds of Chlorine and 48 pounds of ammonia.

Shay, I left a voice mail message for you. I was hoping to discuss the close-out of this project. The STWA Board meeting is next week, Tuesday, March 27th.

Carola

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

From: mcgserrato@stwa.org <mcgserrato@stwa.org>
Sent: Wednesday, March 21, 2018 11:58 AM
To: Walker, Katie <Kathryn.Walker@hdrinc.com>; Roalson, Shay <Shay.Roalson@hdrinc.com>
Cc: Aaron Archer <aarcher@walkerpartners.com>; 'Dony Cantu (dcantu@stwa.org)' <dcantu@stwa.org>; 'Frances Rosales' <fvrosales@stwa.org>; 'Jacob Hinojosa' <jhinojosa@stwa.org>; 'Jo Ella Wagner' <jwagner@stwa.org>
Subject: FW: Latest Before - After Results

Today's results show that the FAA is too high at 0.51 mg/l downstream of Driscoll at the off-site vault on Avenue G (two blocks from PS) and at CR 16 at 0.55 mg/l. The NH3 has been lowered to a 0.2 mg/l.

Carola

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

From: mcgserrato@stwa.org <mcgserrato@stwa.org>
Sent: Tuesday, March 20, 2018 11:30 AM
To: Walker, Katie <Kathryn.Walker@hdrinc.com>; Roalson, Shay <Shay.Roalson@hdrinc.com>
Cc: Aaron Archer <aarcher@walkerpartners.com>; 'Dony Cantu (dcantu@stwa.org)' <dcantu@stwa.org>; 'Frances Rosales' <frosales@stwa.org>; 'Jacob Hinojosa' <jhinojosa@stwa.org>; 'Jo Ella Wagner' <jwagner@stwa.org>
Subject: Latest Before - After Results

The Free Chlorine result at CR 16 is highlighted today since it is at 0.99 mg/l. The results were double-checked. We don't know what would cause that result since the difference between the Total and Mono- is only 0.26 mg/l.

Jacob instructed the Field Tech to adjust the Desired Total to 4.5 mg/l from the 4.0 setting and to reduce the NH3 setting from 0.40 mg/l down to 0.30.

Please let us know if you have any recommendations or observations to share.

Carola

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

mcgserrato@stwa.org

From: mcgserrato@stwa.org
Sent: Monday, March 19, 2018 10:14 AM
To: 'Walker, Katie'
Cc: 'Roalson, Shay'
Subject: RE: Driscoll LAS - Before - After
Attachments: DR LAS Before After Results Thr 03182018.xlsx

Here are the numbers. The Field Tech on call this weekend did some repeated sampling, as noted in the spread sheet. In addition, there is information on the adjustments to the LAS setting. On Friday morning the setting was 1.0 mg/l. Friday afternoon, the setting was reduced to 0.75 mg/l. And, on Saturday, it was reduced to 0.50 mg/l. The results on Sunday look very promising with even CR 16 getting a total of 3.0 mg/l and a mono of 2.84 with ammonia of 0.22 mg/l and free of 0.23 mg/l. In addition, Jacob was pleased to see that the chemical usage from Saturday to Sunday was 32 lbs of ammonia to 13 lbs of chlorine.

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

From: Walker, Katie <Kathryn.Walker@hdrinc.com>
Sent: Monday, March 19, 2018 8:34 AM
To: mcgserrato@stwa.org
Cc: Roalson, Shay <Shay.Roalson@hdrinc.com>
Subject: RE: Driscoll LAS - Before - After

Carola – good news. Please send the weekend's results when you have time so that we can see if the changes are continuing to produce the desired results.

Thanks,
Katie

Katie Walker, PE, ENV SP
D 512-912-5169

hdrinc.com/follow-us

From: mcgserrato@stwa.org [mailto:mcgserrato@stwa.org]
Sent: Friday, March 16, 2018 5:27 PM
To: Roalson, Shay <Shay.Roalson@hdrinc.com>; Walker, Katie <Kathryn.Walker@hdrinc.com>
Cc: Beroset, Shaun D. <Shaun.Beroset@hdrinc.com>; Singer, Lisa <Lisa.Singer@hdrinc.com>; Aaron Archer <aarcher@walkerpartners.com>; 'Dony Cantu' <dcantu@stwa.org>; 'Frances Rosales' <fvrosales@stwa.org>; 'Jacob Hinojosa' <jhinojosa@stwa.org>; 'Jo Ella Wagner' <jwagner@stwa.org>
Subject: Driscoll LAS - Before - After
Importance: High

It appears that the changes to the programming of the LAS system on Wednesday, March 14th may be working. The first day there was only 8 lbs of chlorine used and 70 lbs of ammonia. So, adjustments were made to the FAA setting

yesterday and again today. The attached sheets show readings for morning and afternoon for today and yesterday. This afternoon's results finally achieved the 3.0 mg/l mark for total chlorine.

Carola

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

dpc Industries, Inc.

5245 Sunbelt
Corpus Christi, TX 78408

INVESTIGATION FORM

Date: **02/21/18**

Customer: **South Texas Water Authority**

Reported Incident

Customer reported that they were getting corrosion out of ton container (serial number 4611).

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Investigation

Ton (number 4611) was picked up by DPC Industries Inc and returned to the packaging plant for evaluation.

1) Ton was returned with 1995 LBS of chlorine remaining in the container;
2) Ton was received with valve in the closed position, container was not leaking;
3) Shrink wrap had been removed;
4) Torque seal was worn due to chlorine residue on the valve;
5) Packing nuts on both the top and bottom valves were worn and discolored;
6) A rag test was performed on the ton. A rod with a clean rag attached was inserted into the ton through the fuse plug opening. Rag contacting the inside walls of the ton. The rag test determined that no contaminates were found inside of the container
7) Valves were removed and tested, both valves operated properly.

Conclusion

The evaluation of the chlorine ton number 4611 found the container to be clean and the valves operated properly.

Date Completed: 2/21/2018

T. Paul Knox

Completed by:

ATTACHMENT 6

City of Bishop Water Supply Contract

Memorandum

To: South Texas Water Authority Board of Directors
From: Carola G. Serrato, Executive Director
Date: March 22, 2018
Re: City of Bishop - Revised Wholesale Water Supply Contract

Background:

As agreed upon at the last Board meeting, Mayor Tem Miller was contacted via email and US Mail. Enclosed is a copy of the email requesting that the City consider meeting in person to discuss the Wholesale Water Supply Contract. As the Board is aware, STWA has requested written feedback from the City since meeting with City representatives in January of 2017, about 14 months ago. Enclosed is an email received today with an attached contract. According to Ms. Cynthia Contreras, City Secretary, the Council has approved this contract. However, Ms. Contreras' description of the contract being a twenty (20) year contract is not accurate.

Analysis:

The attached contract is not a revision of the most recently offered contract. It is the originally offered 20-year contract with certain modifications. It appears, based on the City reverting to this original contract, that one of the City's main concerns pertains to the provision in the recently offered Wholesale Water Supply Contract that calls for the City increasing its usage from its historical percentage of 50% to 60% over the initial 5-year period. In fact, it appears that the City is unwilling to make any commitment regarding a volume of purchase. This matter has been discussed with legal counsel, Bill Flickinger. It is important to note that the City uses STWA's supply to blend with groundwater. As such, the provision was included in the offered contract along the same lines as the provision in the City of Kingsville Contract which increased the dollar amount purchased over the 5-year period. As described in emails to legal counsel and bond counsel this is directly related to maintaining a flow on the 42" line in order to assist in maintaining disinfectant residuals and avoid future problems with the TCEQ.

Additionally, it is important to note, regardless of what is possibly a City position, that it *must* supplement its groundwater supply with STWA's surface water supply; therefore, it is not necessary to contractually require such is not a rationale to accept. As discussed with Mr. Flickinger, all of STWA's customers utilize STWA for 100% of their needs with the exception of Bishop and Kingsville. Kingsville has agreed to purchase a certain dollar amount and to increase that dollar amount over time – as well as make adjustments, within certain limits, to increase the amount as a result of the City of Corpus Christi's rates increasing. In short, without some written assurances the City will take at least the historical 50% volume, there is not any commitment on the City's part or a contractual guarantee.

The originally offered contract did not have a guaranteed purchase; however, the Board agreed to signing that type of contract with Agua Dulce, Nueces Water Supply Corporation and the Ricardo Water Supply Corporation on a twenty (20) year contract. The revision in the attached contract offered by the City is a 5-year contract with only a 60-day notice to terminate.

Finally, Mr. Flickinger and I reviewed another modification made by the City at the top of Page 3. We agreed that the last clause "or if water is not…to Customer" is not acceptable. The added language appears to be a provision that allows the City to "shop around" for a less expensive supply.

Staff Recommendation:

Mr. Flickinger and I agree that it will likely be necessary to meet with the City in person. Neither staff nor legal counsel recommend approval of the contract approved by the City.

Board Action:

Provide feedback to staff and/or legal counsel.

Summarization:

Staff believes the contract offered to the City is along the same lines as that negotiated with the City of Kingsville which conforms to the concept of uniform treatment of the two (2) Wholesale Customers that use STWA's supply to supplement their groundwater. The contract offered by the City of Bishop is a modified version of the original contract **but** without any volume or term commitments.

mcgserrato@stwa.org

From:	mcgserrato@stwa.org
Sent:	Thursday, March 1, 2018 9:52 AM
To:	Tem Miller (mayormiller-bishop@corpus.twcbc.com); Gerald Benadum
Cc:	Cynthia Contreras; Bill Flickinger; 'Alberto Ruiz'; 'Chuck Schultz (bigc1149@yahoo.com)'; 'Filiberto Trevino (ftrevinoiii@gmail.com)'; 'Kathleen Lowman'; 'Lupita Perez'; 'Patsy Rodgers'; 'Rudy Galvan'; 'Steven C. Vaughn'; 'Dony Cantu (dcantu@stwa.org)'; 'Frances Rosales'; 'Jacob Hinojosa'; 'Jo Ella Wagner'
Subject:	Wholesale Water Supply Contract Negotiations
Importance:	High

Sent via email and US mail to Mayor Miller
Sent via email only to Mr. Benadum with cc to Ms. Contreras, Mr. Flickinger, STWA Board and STWA Managers

Mayor Miller and Mr. Benadum,

I am writing this email per STWA Board instruction during the February 27, 2018 Board Meeting. The proposed Wholesale Water Supply Contract (Contract) with the City of Bishop was an agenda item. Part of the discussion focused on the lengthy time period of negotiations. According to our recollection, the last time we met as a group was in January of 2017. Staff requested that the Board consider using the same approach as that used in the negotiations with the City of Kingsville which involved meeting face to face with City of Kingsville representatives, including legal counsel. Although this process also spanned about a year, we believe each meeting resulted in some type of progress which was reported to the STWA Board including formal feedback thereby allowing the negotiations to proceed on to another subject of concern.

As part of the Meeting's discussion, the Board was informed that STWA's legal counsel, Bill Flickinger, advised that he could only participate in face to face meetings under certain conditions:

- If the City is amenable to meeting but only with their own legal representation, STWA would ask that the City consider some means of conferencing in Mr. Benadum via telephone if he is unable to participate in person. Other electronic means could be considered such as Face Time, Skype, and use of texting/emailing for his responses and input. This is based on Ms. Contreras' recent emails indicating that she continues to communicate with Mr. Benadum via email.

- If the City is amenable to meeting without their legal counsel present, Mr. Flickinger would require written confirmation from Mr. Benadum agreeing to such.

- The last option would be for representatives to meet without legal representation. However, it warrants mention that the meetings with the City of Kingsville were productive due to our attorneys' presence. Specifically, as the various contract provisions were discussed, each attorney had specific language to draft for inclusion in a draft contract reviewed at the next meeting but intended for the final draft– acknowledging that the final decision would be made by the Council/Board. In this way, each area of concern was addressed in a systematic process that resulted in a final product for presentation to the governing bodies.

In conclusion, I believe based on my most recent conversation with Ms. Cynthia Contreras, City Administrator, that the two (2) issues generating the most concern are (a) the Contract's term (time period/renewals) and (b) the purchase percentage requirement. I would hope that a meeting to review and possibly revise these items would generate definite language to present to the City Council and/or STWA Board bringing this process closer to a resolution.

Please feel free to call me if you have any questions,

Carola

Carola G. Serrato
Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

mcgserrato@stwa.org

From: bishopcitysecretary@corpus.twcbc.com
Sent: Thursday, March 22, 2018 2:34 PM
To: Carola G. Serrato
Cc: 'Miller Tem'; Gerald L. Benadum; Bom Flores
Subject: Proposed Water Supply Contract
Attachments: 201803220905.pdf

Importance: High

Good afternoon Carola,

Attached is the proposed Water Supply Contract with proposed changes dated 11-4-17. The City Council approved the attached contract with the term of the contract being for 20 years with no minimum purchase. Please let me know when this item will be brought before STWA's Board.

Respectfully,

Cynthia L. Contreras
City Secretary
City of Bishop
PO Box 356
Bishop, Texas 78343
361-584-2567 (phone)
361-584-3253 (fax)
bishopcitysecretary@corpus.twcbc.com

-----Original Message-----
From: bishopcitysecretary@corpus.twcbc.com
<bishopcitysecretary@corpus.twcbc.com>
Sent: Thursday, March 22, 2018 9:06 AM
To: CynthiaC <bishopcitysecretary@corpus.twcbc.com>
Subject: Message from "RNP002673844150"

This E-mail was sent from "RNP002673844150" (Aficio MP 4002).

Scan Date: 03.22.2018 09:05:39 (-0500)
Queries to: bishopcitysecretary@corpus.twcbc.com

COMMENTS ON DRAFT WATER SUPPLY CONTRACT
Explanations for the changes proposed by City in Redline Draft of 11-4-17 :

SECTION 2, 2nd paragraph – If the Authority fails to provide water, the City must be able to immediately seek other sources, and should not be at mercy of the Authority's meeting schedule to get permission to find water for the City's residents.

Also, if another source is available, that source might not be able or willing to supply water in the exact, discrete quantity described in the Authority's proposal -- "an amount equal to that which the Authority cannot provide". The proposed change will allow the City to obtain water in the quantities and under the terms that may actually exist at that time.

SECTION 4, relating to the Eastside Plant – so far as we are aware, ownership of the facilities at this station has been transferred to Nueces Water Supply Corporation, which is not a party to this Agreement. An agreement regarding use of those facilities and use of the City's land must be in a separate agreement with that Corporation.

SECTION 9(A) – a clarification, to avoid ambiguity about the meaning of "any and all of its revenue bonds"

SECTION 12. TERM OF CONTRACT. – the change is self explanatory.

SECTION 13. (D) Jurisdiction. This change will place jurisdiction of pricing disputes within a state District Court in Nueces County. It is not clear that the PUC has jurisdiction. And, in any event, neither of these local public entities should be eager to surrender local jurisdiction or to impose on its customers the additional costs of litigating every dispute before an administrative agency in Travis County.

11-4-17
REDLINE DRAFT SHOWING CHANGES MADE BY CUSTOMER
TO THE DRAFT PROPOSED BY AITHORITY DATED 10/21/16

ALL CHANGES PROPOSED IN THE 1/21/16 DRAFT ARE ACCEPTED, UNLESS OTHERWISE SHOWN HERE

WATER SUPPLY CONTRACT

THE STATE OF TEXAS §
§
COUNTY OF KLEBERG §

This Contract is by and between the South Texas Water Authority, a governmental agency, conservation and reclamation District and body politic and corporate, having been created under Chapter 436 Acts of the 66th Legislature, Regular Session, 1979, of the laws of the State of Texas, all pursuant to Article XVI, Section 59 of the Texas Constitution (hereinafter called the "Authority") and the City of Bishop, Texas, a general law city in Nueces County, Texas (hereinafter called the "Wholesale Customer"), and is as follows.

RECITALS

WHEREAS, the Authority owns a water transmission line extending from the City of Corpus Christi O.N. Stevens Water Treatment Plant to the Authority's offices at 111 E. Sage Road, Kingsville, Texas 78363; and

WHEREAS, the Authority has entered into that certain Water Supply Agreement by and between the Authority and the City of Corpus Christi dated October 14, 1980, pursuant to which the Authority purchases water for resale to its customers; and

WHEREAS, the Authority is willing to sell, and the Wholesale Customer is willing to buy, water available to the Authority from the City of Corpus Christi.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained the Authority and the Wholesale Customer agree as follows:

SECTION 1. DEFINITIONS. Terms and expressions as used in this Contract, unless the context clearly shows otherwise, shall have the following meanings:

(A) "Corpus Christi Water Supply Agreement" shall mean the Water Supply Agreement by and between the Authority and the City of Corpus Christi dated October 14, 1980, as amended and supplemented from time to time and as modified by the Settlement Agreement and Mutual

Release between the Authority, San Patricio Municipal Water District and the City of Corpus Christi effective as of August 13, 2013.

(B) "Fiscal year" shall mean the twelve month period beginning on October 1 and ending September 30 or such other twelve month period as designated by the Authority.

(C) "Maintenance and Operating Expenses" shall mean all costs of the Authority for operation, maintenance, repair and replacement of the System to the point of delivery for each Wholesale Customer, including, but not limited to, accounting, administration, engineering, and legal expenses and a reasonable reserve to pay for any extraordinary or nonrecurring expenses of operation or maintenance of the System and for replacements and repairs if such expenses should become necessary. Maintenance and Operating Expenses shall include payments under contracts for the purchase of water supply or other services for the System. Maintenance and Operating Expenses shall not include any costs or expenses incurred by the Authority in connection with Special Services.

(D) "Maintenance and Operations Tax" shall mean the ad valorem tax levied by the Authority in accordance with Chapter 49 of the Texas Water Code as authorized by the election of August 11, 2001, at a rate not to exceed $0.12 per $100 taxable value.

(E) "Special Services" shall mean services provided by the Authority to a Wholesale Customer or other entity for the operation, maintenance or management of any facilities or operations of such party that are not part of the Authority's System.

(F) "System" shall mean the Authority's existing water supply and distribution system, together with all future extensions, improvements, enlargements and additions thereto, and all replacements thereof.

(G) "System Operating Charge" shall mean the monthly charge, per 1,000 gallons described in Section 8 consisting of the "pass through charge" for the purchase of water from the City of Corpus Christi and the "handling charge" to pay Maintenance and Operating Expenses.

(H) "Wholesale Customers" shall mean the Cities of Agua Dulce, Bishop, Driscoll and Kingsville, Nueces County Water Control and Improvement District No. 5, Nueces Water Supply Corporation and Ricardo Water Supply Corporation, and any other future contracting parties that purchase water from the Authority for municipal, industrial or agricultural purposes.

SECTION 2. QUANTITY. The Authority agrees to sell and deliver to Wholesale Customer at the delivery point hereinafter specified, and Wholesale Customer agrees to purchase and take at said delivery point, all water required by Wholesale Customer during the period of this Agreement for its own use and for distribution to all customers served by Wholesale Customer's water distribution system at a maximum authorized daily purchase rate which, together with the actual production capacity of the Wholesale Customer's system, is at least 0.6 gallon per minute per connection in the Wholesale Customer's water distribution system. The word "connection"

as used in this paragraph shall have the same meaning as in Texas Administrative Code Title 30, Part 1, Chapter 290, Subchapter D, Section 290.38(14) in an amount up to 0.6 gpm per connection.

The Authority will use its best efforts to remain in the position to furnish water sufficient for the reasonable demands of Wholesale Customer, but its obligations shall be limited to the quantity of water available to it under its contract with the City of Corpus Christi. If the Authority is not able, or determines that it is not able, to furnish the Wholesale Customer with the foregoing ~~amount~~ quantity of water, the Wholesale Customer shall be authorized to obtain water from any other source in an ~~amount~~ quantitiy equal to that which the Authority cannot provide ~~from any other source~~ or, if water is not reasonably or economically available is said quantity, then Customer may acquire water in such quantities and under such terms as are reasonably available to Customer.

SECTION 3. QUALITY. The water which will be delivered to the Wholesale Customer by the Authority will be as received from the City of Corpus Christi, as changed by the transportation process. The Authority may add additional disinfection. The Wholesale Customer has satisfied itself that this water will be suited for its needs.

SECTION 4. POINTS OF DELIVERY AND TITLE. Attached hereto as Exhibit "A" [NOTE: EXHIBIT A NEEDS TO BE REVISED TO BE CONSISTENT WITH THIS PARAGRAPH.] is a schematic diagram involving the transfer of water from the Authority to the Wholesale Customer's distribution system. The Point of Delivery of the water by the Authority to the Wholesale Customer shall be the outlet of the Authority's meter located immediately before the water enters the Wholesale Customer's 125,000 gallon ground storage tank shown on Exhibit "A" attached hereto, and any other points of delivery mutually agreed upon by the Wholesale Customer and the Authority. The Wholesale Customer shall provide and maintain a clean air gap between the Authority's system and the Wholesale Customer's distribution system immediately downstream from the Point of Delivery shown on Exhibit "A," and any other points of delivery mutually agreed upon by the Wholesale Customer and the Authority.

The two pumps shown on Exhibit "A" have been replaced by the Authority pursuant to a letter of agreement between Wholesale Customer and the Authority, a copy of which is attached hereto as Exhibit "B." The Authority has executed the Utility Conveyance Agreement required by the letter agreement, conveying the two pumps and appurtenances described in the contract documents and technical specifications for Bishop Westside Water Treatment Plant renovations and modifications for the South Texas Water Authority prepared by LNV Engineering, March 2014, all the facilities shown on Exhibit "A" are owned by Wholesale Customer, and Wholesale Customer is responsible for the operation and maintenance of those facilities.

~~Wholesale Customer no longer uses what used to be its east side delivery facility, a copy of which is attached hereto as Exhibit "C." All the facilities shown on Exhibit "C" are owned by the Authority, and the Authority is responsible for the operation and maintenance of those facilities. Those facilities stand on land owned by Wholesale Customer. Therefore, Wholesale Customer will execute a license agreement, in favor of the Authority and its assigns,~~

~~substantially in the form of that attached as Exhibit "D," authorizing the Authority to use that land for its delivery facilities.~~

Authority no longer owns the facilities at the Bishop East Side Station. Wholesale Customer intends to enter into an agreement with The Nueces Water Supply Corporation relating to the use of those facilities.

Title to all water supplied hereunder shall remain in the Authority to the Point of Delivery, and upon passing through the Authority's meter or meters installed at the specified Point of Delivery such title to the water shall pass to the Wholesale Customer. Each of the parties hereto shall be responsible for and agrees to save and hold the other party harmless from all claims, demands and causes of action which may be asserted by anyone on account of the transportation, delivery and disposal of said water while title remains in such party.

SECTION 5. MEASURING EQUIPMENT.

(A) Authority shall furnish, install, operate and maintain at its own expense the necessary metering equipment of standard type for measuring properly the quantity of water delivered under this agreement. Such metering equipment shall be located on the Authority's supply main at a location already designated by Authority. Such meter or meters and other equipment so installed shall remain the property of Authority. The reading, calibration and adjustment of the meter equipment shall be done only by the employees or agents of the Authority. However, the Wholesale Customer shall have access to such metering equipment at all reasonable times. For the purpose of this Agreement, the original record or reading of the main meter shall be the journal or other record book of the Authority in its office in which the records of the employees or agents of the Authority who take the reading are or may be transcribed. Upon written request of Wholesale Customer, the Authority will give the Wholesale Customer a copy of such journal or record book, or permit the representative designated by Wholesale Customer Council's resolution to have access to the same in the office of the Authority during reasonable business hours.

(B) Not more than once in each calendar year, on a date as near the end of the Authority's fiscal year as practical, the Authority shall calibrate its main meter or meters and present to the Wholesale Customer accuracy certification. This calibration shall be performed in the presence of a representative of Wholesale Customer, and the parties shall jointly observe any adjustments which are made to the meter in case any adjustments shall be necessary, and if the check meter hereinafter provided for has been installed, the same shall also be calibrated in the presence of a representative of the Wholesale Customer and the parties shall jointly observe any adjustments which are made to the meter in case any adjustments shall be necessary. The Authority shall give Wholesale Customer notice of the time when any such calibration is to be made. If a representative of Wholesale Customer is not present at the time set, the Authority may proceed with calibration and adjustment in the absence of any representative of the Wholesale Customer.

(C) If either party at any time observes a variation between a main delivery meter and the check meter, if any such check meter shall be installed, such party will promptly notify the other party, and the meters shall then be adjusted to accuracy. Each party shall give the other party forty-eight (48) hours' notice of the time of any test of meter so that the other party may conveniently have a representative present.

(D) If, upon any test, the percentage of inaccuracy of metering equipment is found to be in excess of two percent (2%), registration thereof shall be corrected for a period extending back to the time when such inaccuracy began, if such time is ascertainable, and if such time is not ascertainable, then for a period extending back one-half (½) of the time elapsed since the last date of calibration, but in no event farther back than a period of six (6) months. If, for any reason, the main meter is out of service or out of repair so that the amount of water delivered cannot be ascertained or computed from the reading thereof, the water delivered, through the period such meter is out of service or out of repair, shall be estimated and agreed upon by the parties thereto upon the basis of the best data available. For such purpose, the best data available shall be deemed to be the registration of any check meter if the same has been installed and is accurately registering. Otherwise, the amount of water delivered during such period may be estimated (i) by correcting the error if the percentage of error is ascertainable by calibration tests of mathematical calculation, or (ii) by estimating the quantity of delivery by deliveries during the preceding periods under similar conditions when the meter was registering accurately.

(E) The Wholesale Customer may, at its option and its own expense, install and operate a check meter to check the meter installed by the Authority, but the measurement of water for the purpose of this agreement shall be solely by the Authority's meter, except in the cases hereinabove specifically provided to the contrary. Such check meter shall be of standard make and shall be subject at all reasonable times to inspection and examination by any employee or agent of the Authority, but the reading, calibration and adjustment thereof shall be made only by the Wholesale Customer, except during any period when a check meter may be used under the provisions hereof for measuring the amount of water delivered, in which case the reading, calibration, and adjustment thereof shall be made by the Authority with like effect as if such check meter had been furnished or installed by the Authority.

SECTION 6. MEASUREMENT AND UNIT OF MEASUREMENT. The volume of water that is billed to the Wholesale Customer shall be the amount of water delivered through the points of delivery described in the exhibits attached to this Agreement minus the amount of water delivered by the Authority through those points of delivery that is delivered to other customers, as shown in the exhibits attached to this Agreement. The unit of measurement for water delivered hereunder shall be 1,000 gallons of water, U.S. Standard Liquid Measure.

SECTION 7. DELIVERY PRESSURE. The water shall be delivered by the Authority at the point of delivery at the Wholesale Customer's system at "0" pressure.

SECTION 8. PRICES AND TERMS.

(A) System Operating Charge. The System Operating Charge shall be billed monthly as a price per 1000 gallons of water purchased by the Wholesale Customer. The System Operating Charge shall consist of the sum of (1) a "pass through charge" to recover the cost of water purchased pursuant to the Corpus Christi Water Supply Agreement at a rate equal to the cost of water, per 1000 gallons, from the City of Corpus Christi, and (2) a "handling charge" which shall be a rate equal to the estimated annual Maintenance and Operating Expenses per 1000 gallons, less the amount of Maintenance and Operations Tax revenues budgeted for payment of Maintenance and Operating Expenses. Maintenance and Operating Expenses shall not include any management fees or similar expenses related to Special Services. All rates charged for Maintenance and Operating Expenses shall be set to recover the cost of service, based on generally accepted rate making principles, including those set forth in the American Water Works Association ("AWWA") Manual M1 on water rates. The amount of the Maintenance and Operations Tax shall be determined by the board of directors of the Authority in its sole discretion.

Wholesale Customer shall be responsible for the cost of operation, maintenance, repair and replacement of the facilities located after the point of delivery.

Each year after the Authority receives its audit, the Authority will conduct a "true-up" for the year to which the audit applies; i.e., the prior year, using audited costs to determine if there was any over-recovery or under-recovery of costs during that year. Any over-recovery or under-recovery of costs will be carried over as a credit or debit, as appropriate, to the costs included in the budget that are considered to determine the price for the following year. (There will be a one-year delay in each "true-up").

(B) Authority Budget. The Authority's fiscal year shall be from October 1 through September 30 of each year, or such other period as the Authority, after sixty (60) days written notice to the Wholesale Customer, shall adopt. Not later than the forty-fifth (45th) day before the beginning of the Authority's next fiscal year, commencing with the Authority's fiscal year in which this Agreement becomes effective, the Authority shall provide the Wholesale Customer with a copy of the Authority's proposed budget for the following fiscal year, showing the budgeted total annual rate, and the components thereof, to be paid by the Wholesale Customer to the Authority for the fiscal year of the Authority to which the budget applies for sale and purchase of water under this Agreement. The Wholesale Customer shall have thirty (30) days to review and provide written comment on the proposed budget. The Authority shall adopt its fiscal year budget as soon as practicable following the expiration of such thirty (30) day period and shall deliver to the Wholesale Customer a copy of the fiscal year budget within five (5) days after the adoption thereof.

(C) Unconditional Obligation to Pay - The Wholesale Customer shall be obligated to pay, each month, the payments required by this Agreement, without offset or counterclaim. This covenant shall be for the benefit of the holders of the Authority's bonds, secured in whole or in part from the revenues of the System, if as and when any bonds are outstanding.

(D) Billing and Payment - The Authority shall bill the Wholesale Customer monthly for the amounts due the Authority hereunder for the preceding billing period which bill shall disclose

the nature of the amounts due. Such monthly bills shall be normally delivered to the Wholesale Customer within ten business days after the end of each calendar month. All such bills shall be paid by the Wholesale Customer at the office of the Authority in Kingsville, Texas by the dates provided in Section 2251.021, Texas Government Code, but, if there is a bona-fide dispute over an invoice, Wholesale Customer may withhold payment of the disputed amount subject to the requirements of Chapter 2251 of the Texas Government Code. Wholesale Customer shall pay interest to the Authority on any overdue payments in accordance with Section 2251.025, Texas Government Code.
(In the event any such payment is not made within sixty days from date such payment becomes due, the Authority may, at its option, discontinue the delivery of water to the Wholesale Customer until the amount then due the Authority is paid in full with interest as above specified.

SECTION 9. SPECIAL CONDITIONS.

(A) Wholesale Customer represents and covenants that the water supply to be obtained pursuant to this Contract is essential and necessary to the operation of its waterworks system, and that all payments to be made hereunder by it will constitute reasonable and necessary "operating expenses" of Wholesale Customer's waterworks system, and that all such payments will constitute reasonable and necessary operating expenses of Wholesale Customer's waterworks system under any and all revenue bond issues of Wholesale Customer, with the effect that the Wholesale Customer's obligation to make payments from its waterworks revenues under this Contract shall have priority over its obligations to make payments of the principal of and interest on any and all of its revenue bonds expressly secured by waterworks revenues.

(B) Wholesale Customer agrees to fix and collect such rates and charges for water and services to be supplied by its waterworks system as will make possible the prompt payment of all expenses of operating and maintaining its waterworks system, including all payments contracted hereunder, and the prompt payment of the principal of and interest on its obligations payable from the revenues of its waterworks system.

(C) During any period of time when, in the judgment of the Authority, there is a critical shortage of water in the sources of supply available to Authority, which makes it impractical or inadvisable for Authority to deliver to the Wholesale Customer and its other customers with whom it has water supply contracts the full amounts of water required to be delivered thereunder, the water deemed available by the Authority from its sources of supply, shall be rationed to the Wholesale Customer and the other customers during each month of such period of time, in accordance with the "Drought Contingency Plan for the South Texas Water Authority" adopted on May 28, 2013, as it may be amended from time to time. Such rationing shall also be subject to the requirements of Section 10 of this Contract.

(D) The Wholesale Customer is participating in the Federal Flood Insurance Program and will continue to do so during the term of this Contract.

SECTION 10. CORPUS CHRISTI CONTRACT AND DROUGHT CONTINGENCY PLAN. The Wholesale Customer acknowledges that it is required by Sec. 11.1272, Water Code, to

develop a drought contingency plan consistent with the appropriate approved regional water plan. Wholesale Customer also acknowledges that the Corpus Christi Water Supply Agreement requires that, if the City of Corpus Christi implements any measures under its Water Conservation and Drought Contingency Plan, the Authority shall within thirty (30) days of notice of the implementation of any restrictions, surcharges or rationing by the City of Corpus Christi, impose similar restrictions, surcharges or rationing measures on its Wholesale Customers. Any contract for the resale of water furnished by the Authority shall contain a similar condition.

Accordingly, the Wholesale Customer agrees that it will adopt a water conservation plan and drought contingency plan consistent with those of the City of Corpus Christi, as the latter may be amended from time to time.

Wholesale Customer understands and agrees that all Wholesale Customers shall be subject to and bound by the same provisions regarding priorities of user of water and that, therefore, should there be a shortage in the basic supply of water, from the City of Corpus Christi or otherwise, which requires the restriction or curtailing of any Wholesale Customer of water (a/k/a rationing of water), the Authority will limit and restrict all of its Wholesale Customers, to the same extent and on a pro rata basis, and will require its Wholesale Customers to treat all of their customers equally.

SECTION 11. FORCE MAJEURE. In case by reason of force majeure either party hereto shall be rendered unable wholly or partially to carry out its obligations under this Contract, then if such party shall give notice and full particulars of such force majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied on, the obligation of the party giving such notice, so far as it is affected by such force majeure, shall be suspended during the continuance of the inability then claimed, but for no longer period, and any such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term "Force Majeure" as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, acts of a public enemy, orders of any kind of the Government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, droughts, arrests, restrain of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipe lines or canals, partial or entire failure of water supply, or inability on the part of the Authority to delivery water hereunder on account of any other causes not reasonably within the control of the Authority. It is understood and agreed that the settlement of strikes and lockouts may be difficult, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable to it in the judgment of the party having the difficulty.

SECTION 12. TERM OF CONTRACT. This Contract shall be and continue in full force and effect for a period of ~~twenty (20)~~five years after it has been executed by both parties, and may be renewed at the option of the Wholesale Customer for four successive additional terms of five years each. The Wholesale Customer may exercise its option to renew for each additional five-

year term by delivering to the Authority a notice not less than 60 days prior to the expiration of the then-current term

SECTION 13. REMEDIES UPON DEFAULT

(A) Remedies. The parties agree that the Authority's undertaking to provide water is an obligation, failure in the performance of which cannot be adequately compensated in money damages alone. Accordingly, the Authority agrees, in the event of any default on its part, that the Wholesale Customer shall be entitled to specific performance in addition to any other available legal or equitable remedies.

(B) Remedies Cumulative/Not Exclusive. The remedies provided for herein are not exclusive remedies. All other remedies at law or in equity may be availed of by either party and shall be cumulative except to the extent otherwise specifically provided, or limited, under this Agreement.

(C) CONSEQUENTIAL DAMAGES. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THIS AGREEMENT, NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES OR LOST PROFITS WHETHER ARISING IN AGREEMENT, TORT, STRICT LIABILITY OR OTHERWISE.

(D) Jurisdiction. ~~The Authority and the Wholesale Customer agree that, if either of them disputes the rate charged pursuant to this contract, either of them may appeal the rate to the Public Utility Commission ("PUC"). If the PUC for any reason refuses to hear the appeal for want of jurisdiction, or otherwise, the dispute may be resolved by the District Court of Nueces County, Texas.~~ If either party disputes any price, System Operating Charge, or rate set or charged pursuant to Section 8 of this contract, the exclusive venue for any suit, proceeding, or other action relating to said price, Charge, rate or the dispute shall lie in a State District Court for a District that includes Nueces County, unless that State Court, by a final judgment, determines that it does not have jurisdiction of the dispute.

SECTION 14. GENERAL PROVISIONS

(A) Covenant of Good Faith and Fair Dealings. The Authority and the Wholesale Customer agree to cooperate and to deal with one another fairly and in good faith at all times to effectuate the purposes and intent of this Contract. They also agree to execute and deliver such further legal documents or instruments and to perform such further acts as are reasonably necessary to effectuate the purposes and intent of this Contract.

(B) TAX-EXEMPT BONDS. The Wholesale Customer understands that the Authority has issued or will issue bonds the interest on which is excludable from the gross income of the owners thereof for federal income tax purposes ("Tax-Exempt Bonds") for improvements to the System and that the federal income tax laws impose certain restrictions on the use of proceeds of any such Tax-Exempt Bonds and on the use of the facilities and property

financed by the Tax-Exempt Bonds and the output produced from such facilities and property. Accordingly, the Wholesale Customer will not enter into a water supply contract or other agreement with a customer of such Wholesale Customer which contains take-or-pay, contract minimums, output requirements, special rates and charges or similar provisions, unless it has notified the Authority in writing of the Wholesale Customer's intent to enter into such contract at least 60 days prior to the execution of such contract or agreement. The foregoing second sentence of this paragraph 14(B) does not apply to a schedule of standard rates and charges that is applied to all retail customers. The parties may rely on the opinion of nationally-recognized bond counsel to ensure compliance with this Section. This Section shall no longer apply to any Wholesale Customer if any of the outstanding bonds of the Authority allocable to the portion of the System used by the Wholesale Customer are not Tax-Exempt Bonds.

(C) Notices. Any notice to be given hereunder by either party to the other party shall be in writing and may be effected by personal delivery, by facsimile, or by sending said notices by registered or certified mail, return receipt requested, to the address set forth below. Notice shall be deemed given when received by facsimile or by personal delivery, or three days after deposited with the United States Postal Service with sufficient postage affixed.

Any such notice mailed to the Authority shall be addressed:

South Texas Water Authority
P.O. Box 1701
Kingsville, Texas 78364
Attn: Executive Director
Fax: (361) 592-5965

Any such notice mailed to the Wholesale Customer shall be addressed:

City of Bishop
P.O. Box 356
Bishop, Texas 78343
Attn: City Secretary
Fax: (361) 584-3253

Either party may change the address or facsimile number for notice to it by giving notice of such change in accordance with the provisions of this paragraph.

(D) Approvals. Whenever the term "approve" or "approval" is used in this Contract, the party whose approval is required will not unreasonably withhold or delay it. Where approval is necessary, the party seeking approval may request approval in writing. If the party whose approval is requested fails to either approve the submittal or provide written objection or comments specifically identifying the required changes within ~~21~~ 35 working days, the submittal, as submitted by the requesting party, will be deemed to have been approved by the party whose approval is requested.

(E) Waiver. The failure on the part of either party to require performance by the other of any portion of this Contract shall not be deemed a waiver of, or in any way affect that party's rights to enforce such provision. Any waiver by either party or any provision of this Contract shall not be a waiver of any other provision hereof.

(F) Severability. The invalidity or unenforceability of any provision of this Contract shall not affect the validity or enforceability of any other provision of this Contract.

(G) Attorney's Fees. In the event either party shall become a party to any litigation against the other to enforce or protect any rights or interest under this Contract and shall prevail, the losing party shall reimburse the prevailing party for all investigative and court costs and attorney's fees incurred in such litigation.

(H) Governing Law. This Contract shall be governed by the laws of the State of Texas and venue shall lie in Nueces County, Texas.

(I) Binding Effect and Assignment of Contract. The Contract shall be binding upon and inure to the benefit of the parties and their respective successors and assigns. Neither Party may assign its rights or obligations under this Contract without prior written consent of the other Party.

(J) Time. Time is of the essence. Unless otherwise specified, all references to "days" means calendar days. If the date for performance of any obligation falls on a Saturday, Sunday, or legal public holiday, the date for performance will be the next following regular business day.

(K) No Partnership, Agency or Third Party Beneficiaries Intended. Nothing in this Contract will be construed as creating any form of partnership or joint venture relationship between the parties, nor shall either party be authorized to act as an agent for the other party. Nothing in this Contract shall be construed to confer any right, privilege or benefit on, or to otherwise create any vested right or third-party beneficiary relationship with any person or entity not a party to the Contract.

(L) Authority. Each of the persons signing on behalf of the Wholesale Customer and the Authority hereby confirm that they have the authority to execute this Contract on behalf of the party indicated by their signature and have the authority to bind such party hereto.

(M) Headings. The captions and headings appearing in this Contract are inserted merely to facilitate reference and will have no bearing upon its interpretation.

(N) Entire Contract. This Contract contains all agreements between the parties hereto and any agreement not contained herein shall not be recognized by the parties. The captions used herein are for convenience only and shall not be used to construe this Agreement. Words of gender shall be construed to include any other gender, and words in the singular shall include the plural and vice versa unless the context requires otherwise.

(O) Counterparts. This Agreement may be executed by the parties in any number of counterparts, each of which when so executed and delivered shall be deemed an original instrument, but all such counterparts together shall constitute but one and the same instrument.

(P) Effective Date. The effective date of this Contract shall be the date on which it has been executed by both the Authority and the Wholesale Customer.

[*Signatures to follow.*]

SOUTH TEXAS WATER AUTHORITY

By: _____
President, Board of Directors
Date of execution: _____

ATTEST:

_____
Secretary, Board of Directors

[AUTHORITY'S SEAL]

CITY OF BISHOP, TEXAS

By: _____

_____, Mayor

Date of execution: _____

ATTEST:

_____

Secretary

[CITY'S SEAL]

LIST OF EXHIBITS

Exhibit "A" - Schematic diagram involving the transfer of water from the Authority to Wholesale Customer's distribution system

Exhibit "B" - Letter agreement addressing construction of two pumps

~~Exhibit "C" — Former east side delivery facilities~~

~~Exhibit "D" — Draft License Agreement~~

ATTACHMENT 7

Driscoll Repeater Antenna

Memorandum

To: South Texas Water Authority Board of Directors
From: Carola G. Serrato, Executive Director
Date: March 22, 2018
Re: Mercer Controls, Inc. – Contract for elimination of Repeater Antenna located on Elevated Storage Tank (EST) owned by the City of Driscoll

Background:

During the last meeting, the Board approved a quote in the amount of $34,475 from Mercer Controls, Inc. to eliminate the Driscoll EST repeater station.

Analysis:

Mr. Sherrel Mercer and I spoke regarding a written agreement for his company to perform this work. As mentioned in recent Weekly Updates, quite a bit of activity has occurred lately with modifications to the Driscoll LAS system and converting STWA's SCADA system from being PC controlled to the use of a PLC, including the means of communicating alarms from the various pump stations. As such, Mr. Mercer believes the written agreement should be available by the meeting on Tuesday.

Staff Recommendation:

As mentioned during the last meeting, the cost of this project will be paid by remaining available bond funds. Staff continues to support proceeding with this project. Contingent upon the provisions being in order, approve the agreement for the elimination of the Driscoll EST repeater station.

Board Action:

Determine whether to approve the written agreement between Mercer Controls, Inc. and South Texas Water Authority for the elimination of the Driscoll EST repeater station.

Summarization:

As stated last month, STWA relies upon communication with its SCADA system that is stable, accurate and consistent.

ATTACHMENT 8

HDR Proposal – Driscoll/Central Booster Station SOPs

Memorandum

To: South Texas Water Authority Board of Directors
From: Carola G. Serrato, Executive Director
Date: March 23, 2018
Re: HDR Proposal – SOP – Driscoll/ Central Pump Station – Disinfectant Booster Stations

This item had been posted. Rather than amend the posting, staff recommends "no action" for this item.

Background:

Enclosed is an email from Craig Stowell, TCEQ, regarding the most recent efforts to develop a Standard Operating Procedure (SOP) for the Disinfectant Booster Station located in Driscoll, which injects ammonia and chlorine directly into the 42" line, and the disinfectant system located at the Central Pump Station (PS), which boosts the residual for the Banquete, Agua Dulce and Sablatura Park Pump Stations. Staff was pleased to receive notice late this afternoon that the Engineering Report has been approved based on making the necessary modifications to the SOPs.

As reported in recent Weekly Updates, the original SOP on the operation of the Driscoll Disinfectant Booster Station was provided by HDR Engineering, Inc. (HDR) at no charge to STWA. That SOP plus several others were submitted as part of a *revised* Engineering Report to the TCEQ. The TCEQ had stated that these SOPs are required and the Engineering Report would not be approved without the SOPs. The Engineering Report is a requirement of the Enforcement Order.

Analysis:

As indicated in the attached email, after the March 13th conference call between Mr. Stowell, Aaron Archer, Walker Partners, Jacob Hinojosa, O&M Supervisor, and me, revisions were made to the HDR SOP to include photos, descriptions, and the two (2) steps to operate the Driscoll system. This is due to the automated nature of the system which provides for inputting a desired downstream Monochloramine target and incoming free available ammonia (FAA). In addition, during the conference call, there was a discussion about a SOP for the operation of the Central Pump Station system. This system is not automated and the SOP is quite different. Shay Roalson, HDR, and I discussed TCEQ's requirement for the SOP, TCEQ's comments on HDR's drafted SOP, and the latest feedback from the March 13th conference call. Late this afternoon, I left a voice mail message for Ms. Roalson indicating that the proposal was no longer necessary.

Staff Recommendation:

In anticipation that the TCEQ's comments would require **a detailed description of the inner workings of the Driscoll automated system**, staff had requested the proposal from HDR. Based on conversations with Ms. Roalson, staff anticipated a $5000-$7000 cost range for the service. However, based on Mr. Stowell's comment indicating that the "SOP is very good," staff recommends taking no action on this item.

Board Action:

Provide feedback to staff.

Summarization:

Staff is pleased that the revised SOP appears to be acceptable; nonetheless, I believe there may still be comments from the TCEQ which will require additional modifications.

mcgserrato@stwa.org

From:	Craig Stowell <Craig.Stowell@tceq.texas.gov>
Sent:	Friday, March 23, 2018 3:12 PM
To:	mcgserrato@stwa.org
Cc:	Aaron Archer; 'Dony Cantu'; 'Frances Rosales'; 'Jacob Hinojosa'; 'Jo Ella Wagner'; Vera Poe; Joel Klumpp; Michael Tucker
Subject:	RE: Revised STWA SOP for Operation of Disinfection Booster Stations - Driscoll and Central PS
Attachments:	South Texas 01092018-036.pdf

Carola, I think the SOP is very good and what I expected (format wise and instruction wise). I don't think you need HDR to do anything. I did approve your Engineering report (see attached) with the SOP conditions (of which I think you have done). Remember that the SOPs are living documents that should be reviewed and adjusted each year.
Best regards,

Craig A. Stowell, P.E.

Texas Commission on Environmental Quality
Water Supply Division
Plan Review Team, MC-159
P.O. Box 13087
Austin, Texas 78711-3087
Tel. 512-239-4633

From: mcgserrato@stwa.org [mailto:mcgserrato@stwa.org]
Sent: Friday, March 23, 2018 11:28 AM
To: Craig Stowell <Craig.Stowell@tceq.texas.gov>
Cc: Aaron Archer <aarcher@walkerpartners.com>; 'Dony Cantu' <dcantu@stwa.org>; 'Frances Rosales' <fvrosales@stwa.org>; 'Jacob Hinojosa' <jhinojosa@stwa.org>; 'Jo Ella Wagner' <jwagner@stwa.org>
Subject: Revised STWA SOP for Operation of Disinfection Booster Stations - Driscoll and Central PS

Good Morning Craig,

Attached is a revised SOP for the Operation of the Disinfection Booster Stations located in Driscoll and at the Central PS. Following our conference call on March 13th, Jacob and I worked on revising the SOP developed by HDR. The conversation was helpful since we think we have a better idea of what TCEQ is looking for in the SOP. The SOP has also been revised to include the disinfectant system located at the Central Pump Station.

However, there is one yellow highlighted statement on page 6 that I would like to discuss with Aaron.

Finally, per our discussion, I am expecting a proposal from HDR on re-writing the SOP which if received in time will be presented to the STWA Board on Tuesday, March 27th. But, if the attached SOP doesn't need major revisions, STWA would appreciate saving that cost.

Thanks and have a good weekend,
Carola

Carola G. Serrato

Executive Director
South Texas Water Authority
PO Box 1701
Kingsville, Texas 78364
361-592-9323 x112

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 21, 2018

Mr. Aaron D. Archer, P.E.
Walker Partners Engineers
804 Las Cimas Parkway, Suite 150
Austin, TX 78746

Re: South Texas Water Authority - Public Water System ID No. 1370035
Proposed Disinfection Management Engineering Report
Engineer Contact Telephone: (512) 382-0021
Plan Review Log No. P-01092018-036
Kleberg County, Texas

CN600638589; RN102683323

Dear Mr. Archer:

On January 9, 2018, the Texas Commission on Environmental Quality (TCEQ) received planning material with your letter dated January 5, 2018 for the proposed Disinfection Management Engineering Report. Based on our review of the information submitted, the Disinfection Management strategy generally meets the minimum requirements of Title 30 Texas Administrative Code (TAC) Chapter 290 - Rules and Regulations for Public Water Systems and is **conditionally approved. The following are required changes to Standard Operating Procedures (SOPs):**

1. Please make the following changes for all SOPs:
    a. Provide a title page that includes the date of the original SOP, revision number and date of the revision;
    b. Provide an approval page; and
    c. Include a sign-off page for operators that are trained to the SOP requirements.

2. Please make the following changes to the Flushing SOP:
    a. Please state all dechlorination shall be accordance with the current version of AWWA C655;
    b. Please list necessary equipment operators will need to perform flushing (i.e. wrenches, test kits and netting);
    c. A time and rate or volume with a corresponding residual measurement should be established to know when flushing should be complete. Such as:
        i. At the 8" valve: Will they flush for X time or until a residual of X.X mg/L is recorded?
        ii. At the GSTs: At what point will overflowing activities stop? Will it be for XX amount of time or until a residual of X.X mg/L is recorded at X location?
        iii. Flush 3 volumes of pipeline segment;
    d. A residual measurement should be taken after a designated time to measure the residual in the dechlorinated water; and

e. Establish a residual level for chlorine and ammonia in the discharged water. If water is at or above these levels, designate actions to be taken.

3. Please make the following changes to the Free Chlorine Burn SOP:
   a. The term "Temporary Reversion to Free Chlorine" is a better choice of words than "Chlorine Burn" and is consistent with Corpus Christi's terminology;
   b. The notice to customers should include the DBP information.
   c. Please state how STWA will notify their customers of a chlorine reversion.
   d. Step 4: STWA could employ flushing to help removed chloraminated water faster.
   e. On Step 7: add "and the free ammonia levels meet the goals established in the NAP."
   f. Add a step 8 to notify TCEQ when reversion is completed.

4. Please make the following changes to the Bacteriological (Coliform) Sample Collection SOP:
   a. Remember that when completing your monthly reporting you should record and take into account all residual taking from bacteriological sampling sites and designated residual sampling sites, regardless of whether a bacteriological sample was obtained with the residual.
   b. Touching the sample stream and feeling a decrease in temperature is only accurate in typical, hot Texas weather. During the winter the temperature may be warmer. It might be best to suggest waiting on a temperature change that becomes a uniform temperature.
   c. Please discuss, when you would take a total residual versus a free residual. Please mention that, as a Quality Assurance step, free and total chlorine should not be run in the same vials.
   d. On sampling Step 11: we would suggest adding a "minimum" of 100 ml. Suggesting it must contain 100 often leads to people trying to hit the line and not obtain the minimum volume needed for a valid test and chlorine neutralization confirmation.
   e. On sampling Step 14-2rd bullet: please state maximum hold time for the Total Coliform test is 30 hours.
   f. On sampling Step 14-4th bullet: We suggest adding "drinking water" or "potable in front of samples.
   g. All TCR references should be updated to RTCR.
   h. On laboratory Actions regarding repeat sampling protocol: Although STWA can reach out to TCEQ for assistance at any time they should have the protocol for sampling and repeat sampling in the Sample Siting Plan and Monitoring Plan for their documentation of required follow up efforts.

5. Please make the following changes to the Boosting at Driscoll SOP:
   a. The SOP is not operator specific. It does not detail what an operator will need to do or measure at the Driscoll pump station. For instance:
      i. where is an operator to take the sample to measure where on the break point curve?
      ii. How does he determine the required 5:1 ratio?
      iii. Where does he make the adjustment (i.e. what valves does he turn)?
      iv. How long to wait and where to take and analyze a sample to know if monochloramine is being achieve at the highest levels.
   b. The SOP should be written with step-by-step instructions so that any operator not familiar with the pump station could follow it and have success setting the boosting station.

c. The SOP should contain diagrams of the boosting station to help the operator go to the proper location during the step by step boosting process.

Please refer to the Plan Review Team's Log No. P-01092018-036 in all correspondence for this project.

If you have any questions concerning this letter or need further assistance, please contact Mr. Craig A. Stowell, P.E. at (512) 239-4633 or by email at Craig.Stowell@Tceq.Texas.Gov or by correspondence at the following address:

Plan Review Team, MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Sincerely,

Craig A. Stowell, P.E.
Plan Review Team
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality

Vera Poe, P.E., Team Leader
Plan Review Team
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality

VP/CAS/mw/db

cc: South Texas Water Authority, Attn: Kathleen Lowman, President, P.O. Box 1701, Kingsville, TX 78364-1701

bcc: TCEQ Central Records PWS File 1370035 P-01092018-036
TCEQ Region No. 14 Office - Corpus Christi
TCEQ - Michael Tucker, MC-149A, Enforcement Division, Order Compliance Team

South Texas Water Authority

Field Personnel

Acknowledgment Sheet For

Standard Operating Procedure:

Chloramine Boosting – Driscoll and Central PS Disinfection Booster Stations

I hereby acknowledge that I have received, understood, and discussed with my O&M Supervisor the Standard Operating Procedure for **Chloramine Boosting – Driscoll and Central PS Disinfection Booster Stations.**

Employee Signature: _____ Date: _____

Witness Signature: _____ Date: _____

Witness Title: _____

South Texas Water Authority

Standard Operating Procedure:

SOP Title	**Chloramine Boosting – Driscoll and Central PS Disinfection Booster Station Standard Operating Procedure (SOP)**

Staff Name	Staff Title	Role	Status: Revise - Approve	Date
Jacob Hinojosa	O&M Supervisor	Reviewer		
Carola G. Serrato	Executive Director	Approver		

Purpose	To describe the process for boosting the Chloramine residual by operating the Disinfectant Booster Station located in Driscoll that injects Ammonia and Chlorine directly into the 42" waterline and the Central PS Booster Station that boosts the residual on the spur line.
Scope	This SOP is to be followed by ALL field personnel that operate the Driscoll Disinfection Booster Station and the Central PS Disinfectant Booster Station.
File Location	Shared Files – S Drive – South Texas Water Authority SOP Folder

South Texas Water Authority

Driscoll Disinfection Booster Station

Central Pump Station (PS) Disinfection Booster Station

Standard Operating Procedure (SOP)

GOAL

To maintain proper Chloramine formation which is critical to maintaining adequate residual disinfectant levels and preventing nitrification from occurring in South Texas Water Authority's distribution system, namely the 42" waterline and spur line (14" and 12" line).

Since Ammonia is added before Chlorine at the Driscoll Disinfection Booster Station and the Central PS Disinfection Booster Station, the important item to consider is a Free Available Ammonia level equal to the target Monochloramine level divided by the target Chlorine to Ammonia ratio. After adjusting Chlorine and Ammonia levels, the following should be achieved:

- The Monochloramine level should be within the acceptable range per the South Texas Water Authority Nitrification Action Plan or NAP, which should range between 3.1 – 3.5 mg/L downstream of the booster station. For the Driscoll Booster, the "After" sample site is on West Avenue G in Driscoll. For the Central PS Booster, the "After" sample site is the Geo Sample Site Vault on FM 2826 West of the Central Pump Station.
- Any change in the Total Chlorine level after the chemicals were added should NOT result in a significant difference between Total Chlorine and Monochloramines
- The Free Available Ammonia levels should be within the acceptable range per STWA's NAP, or approximately 0.2 mg/L downstream of the booster station. For the Driscoll Booster, the "After" sample site is on West Avenue G in Driscoll. For the Central PS Booster, the "After" sample site is the Geo Sample Site on FM 2826 West of the Central Pump Station.

SOP Purpose

The purpose of this Standard Operating Procedure is to provide guidance on how to analyze sampling results and make chemical adjustments at the Driscoll Disinfection Booster Station and the Central PS Booster Station.

Process Description

As you know, Free Chlorine reacts with Ammonia to form Chloramines, with **Monochloramine** being the desired species for disinfection, with different species formed at different Chlorine to Ammonia mass ratios (see Figure 1).

It is important to measure **Total Chlorine, Monochloramine,** and **Free Available Ammonia** levels prior to making changes to the Chlorine and Ammonia feed systems, and to stay within the proper mass ratio of Chlorine to Ammonia so that Monochloramine formation occurs and the level of Free Available Ammonia is limited.

Monochloramine is the preferred species because it is a stable form of Chloramines and does not have the taste and odor problems associated with other forms. Monochloramine is mostly formed with the Chlorine to Ammonia ratio ranges from 0:1 to 5:1 (see Figure 2).

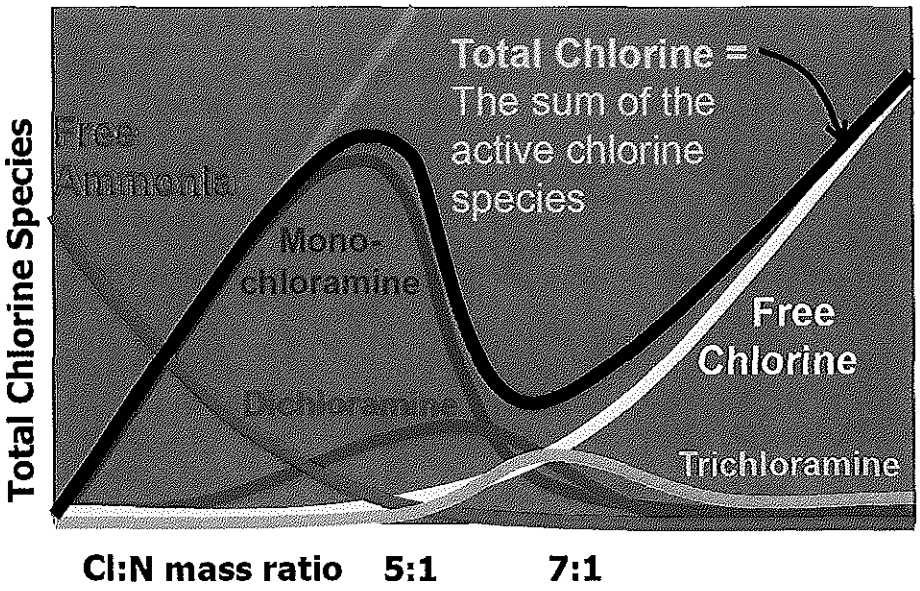


Figure 1: Chloramine Breakpoint Curve (Source: TCEQ)

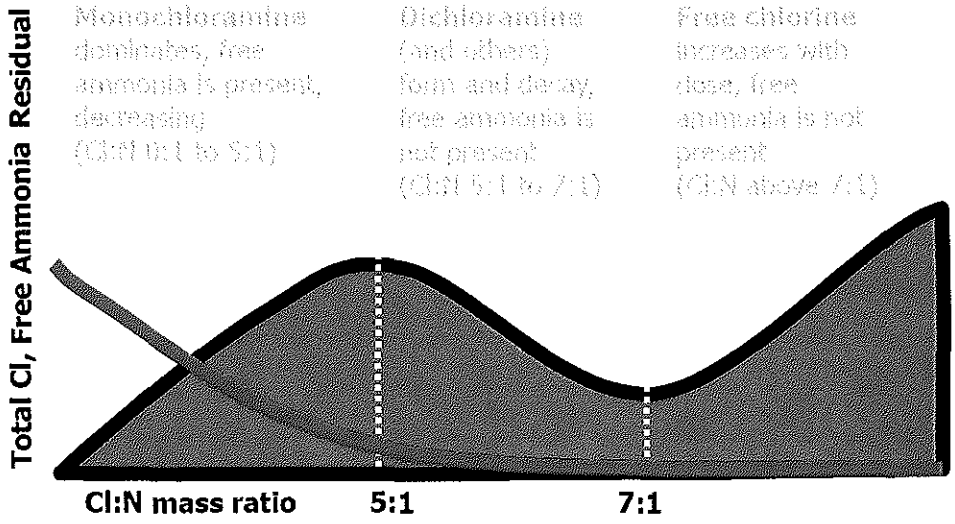


Figure 2: Summary of Chloramine Formation (Source: TCEQ)

As shown in Figure 2, ratios above 5:1 start to produce di- and tri-Chloramines, which are undesirable species of Chloramines. With consistent monitoring and a good understanding of Chloramine formation, the proper Free Chlorine to Ammonia ratio can be achieved and maintained.

Chemical Sampling

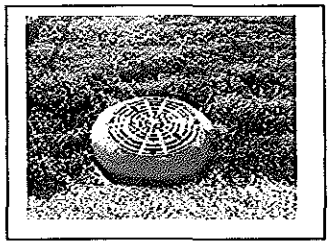
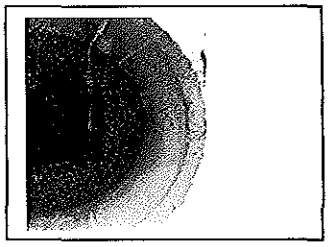
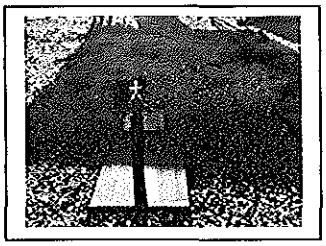
To determine a position on the breakpoint curve, the following samples are required as a minimum:

- **Total Chlorine** – measuring Total Chlorine helps to determine which species of Chloramine is being produced and to make sure the right level of disinfectant is available.
- **Monochloramine** – measuring Monochloramine levels helps to determine if we have the right ratio of Chlorine and Ammonia as compared to the level of Total Chlorine.
- **Free Available Ammonia (FAA)** – measuring Free Available Ammonia helps to determine if too much Ammonia is being added, and/or if additional Chlorine should be applied
- **Free Chlorine** is also sampled, but it does not have as much impact on determining the Chloramine levels as the other three parameters. However, it can be useful in determining if additional Ammonia may need to be added.

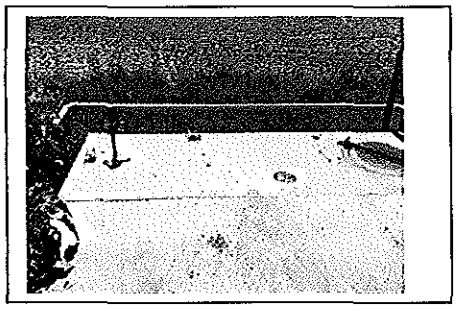
Detailed information on how to collect Total Chlorine, Free Chlorine, Monochloramine, and Free Available Ammonia, as well as sampling forms, are available as other STWA SOPs. Nitrate and nitrite are shown on some forms; but, are not required parameters for Chloramine formation analysis.

Sample Locations for Driscoll Disinfectant Booster Station

1. "Before" – Prior to injection at the Driscoll site – This site is located immediately adjacent to the Driscoll Pump Station which is located on the northeast corner of the intersection of Fourth Street and West Avenue "E". This is just west of the railroad tracks on the west side of US 77.

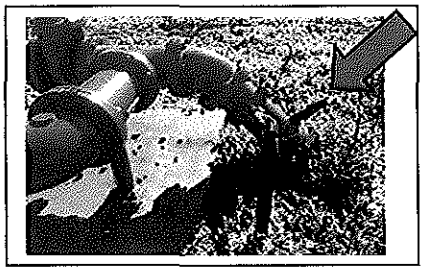
2. "After" – Downstream of the Driscoll site – located in the offsite vault on the south side of West Avenue "G" (southernmost street) in Driscoll. The vault is located just west of the railroad tracks on the west side of US 77.



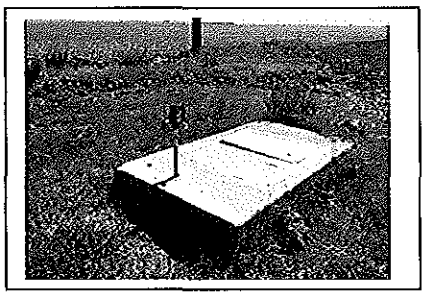
3. Additional Sites – Additional sites are located north and south of Driscoll which can be utilized if incoming and/or resulting residuals are too high or too low. Those sites are listed as part of South Texas Water Authority's Monitoring Plan's Sample Site Plan.

Sample Locations for Central PS Disinfectant Booster Station

1. "Before" – Located on the Meter Run – Prior to Injection of Ammonia and Chlorine – This site is the South Texas Water Authority Central Pump Station (PS) located on the Northwest corner of the intersection of CR 79 and FM 2826.



2. "After" – Located on FM 2826 at the Geo Sample Site Vault – West of Central PS



Adjustments Based on Sample Results

Once "Before" and "After" samples have been collected, they should be analyzed to determine the position on the breakpoint curve and if additional chemicals are required.

If **Free Available Ammonia** is present then the system is in the Monochloramine zone of the breakpoint curve because Free Chlorine cannot be present. Ideally, the mass ratio of Chlorine to Ammonia should be close to, but not exceed, 5:1. Another goal is to keep Free Available Ammonia levels as low as possible, around 0.2 mg/L based on the STWA NAP, and to have Monochloramine at roughly the same level as Total Chlorine as shown in Figure 1.

Since chemicals can be adjusted at the Driscoll Disinfectant Booster Station and the Central PS Disinfectant Booster Station, it is important to understand how to respond to sampling conducted at the Booster Stations. The following are scenarios and recommendations on what to do if issues arise:

Monochloramine levels are too high (greater than 3.5 mg/L)

If "Before" sample collection results at the Driscoll Disinfectant Booster Station or Central PS Disinfectant Booster Station has **Monochloramine levels that are too high (above 4.0 mg/l)**, then:

- Boosting is not required.
- If necessary, the Field Tech should reduce both the Ammonia feed and Chlorine feed being sure to maintain the desired Chlorine to Ammonia ratio (5:1 or below).
- Following any adjustments, the Field Tech should collect and test another "After" sample.

Total Chlorine reduces after Ammonia addition

If "After" sample collection results at the Driscoll Disinfectant Booster Station or Central PS Disinfectant Booster Station indicate that **Total Chlorine levels have dropped after Ammonia addition**, then:

- It is an indication that the mass ratio is moving beyond 5:1 and Dichloramines are being produced.
- In this scenario, the Field Tech should increase the Ammonia level or reduce the Chlorine feed or change both so that the proper ratio can be achieved.
- Following any adjustments, the Field Tech should collect and test another "After" sample.

Ammonia levels are too high (greater than 0.3 mg/L)

If "After" sample collection results at the Driscoll Disinfectant Booster Station or Central PS Disinfectant Booster Station indicate that **Ammonia levels are too high**, then:

- The Field Tech should reduce the Ammonia feed OR the Field Tech should increase the Chlorine feed.
- Both adjustments can also be made depending on the resulting Total Chlorine level.
- If the Total Chlorine level is too high (above 4.0 mg/l), then the Field Tech should start by reducing the Ammonia feed system.
- Operating a Chloramine system by minimizing the Free Available Ammonia levels has the benefit of limiting nitrification.
- Following any adjustments, the Field Tech should collect and test another "After" sample.

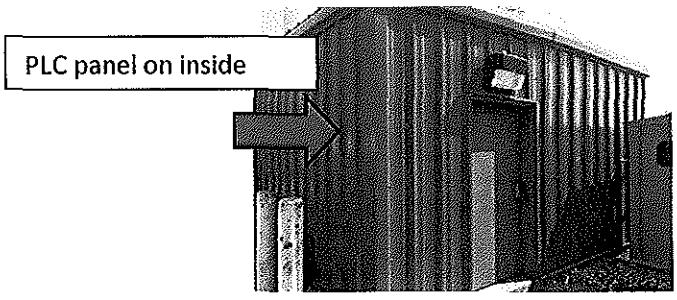
Total Chlorine levels are Significantly higher than Monochloramine

If "After" sample collection results at the Driscoll Disinfectant Booster Station or Central PS Disinfectant Booster Station indicate that **Total Chlorine levels are significantly higher (greater than 0.5 mg/l) than Monochloramine**, then:

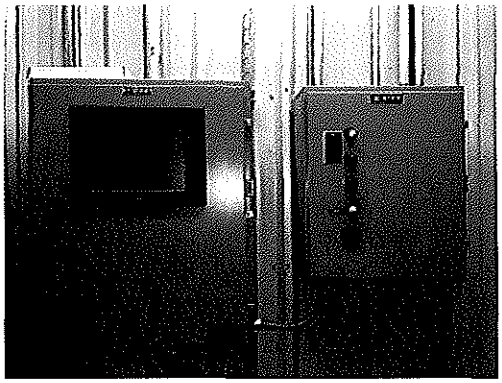
- The Field Tech should reduce the Chlorine.
- Following any adjustments, the Field Tech should collect and test another "After" sample.

Chlorine and LAS Dosing – Driscoll Disinfectant Booster Station

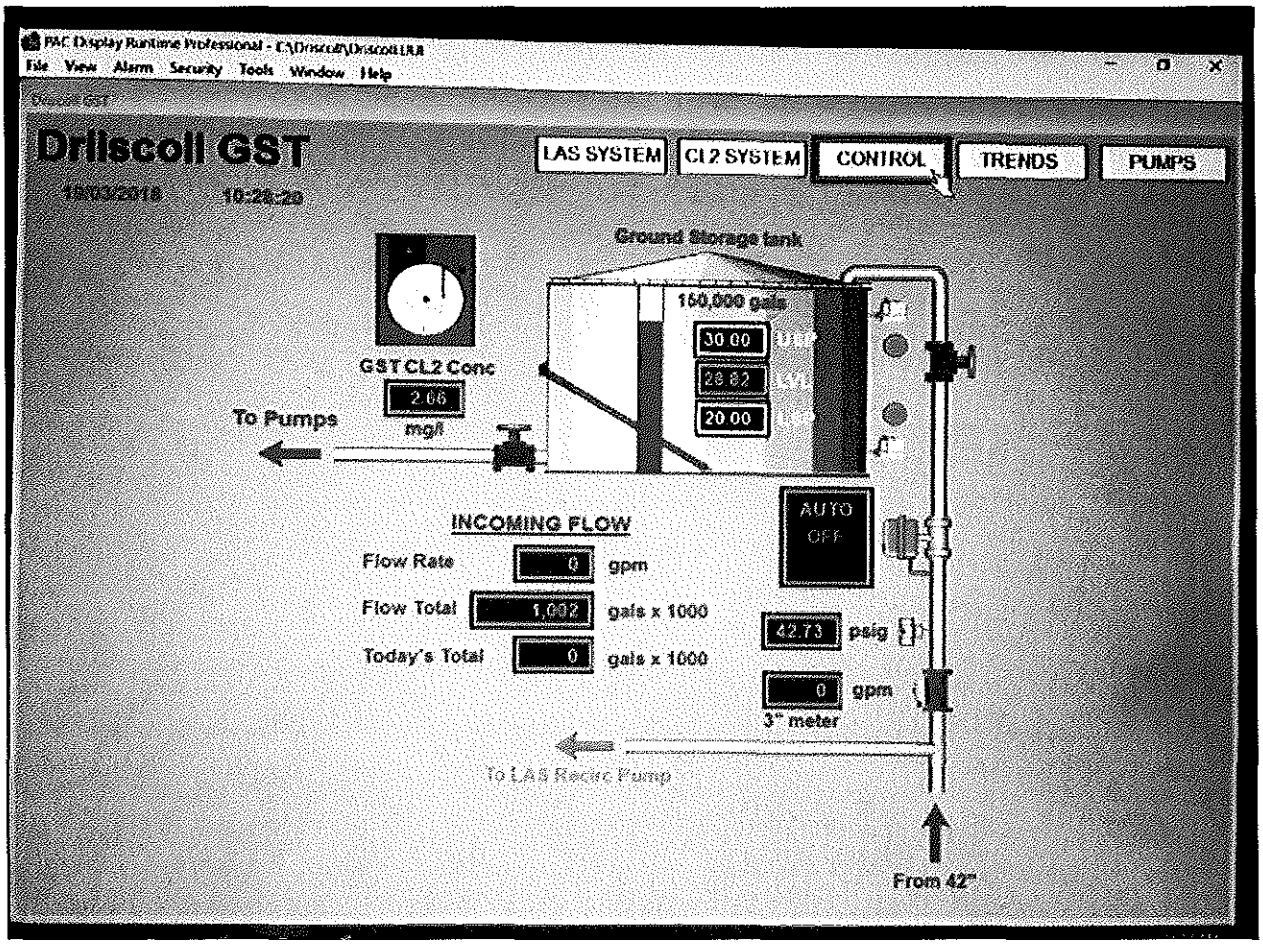
As a Field Tech, you need to be familiar with the following equipment and computer applications illustrated below in the photographs of the Driscoll Disinfectant Booster Station. If adjustments are necessary, based on the sample results of residuals (Total, Mono-, Free Chlorine, and FAA) at the "After" sample site, the following steps should be taken:Return to the Driscoll Pump Station. Locate the PLC panel on the west wall of the pump station in the south section room, immediately to the left of the south entry door.



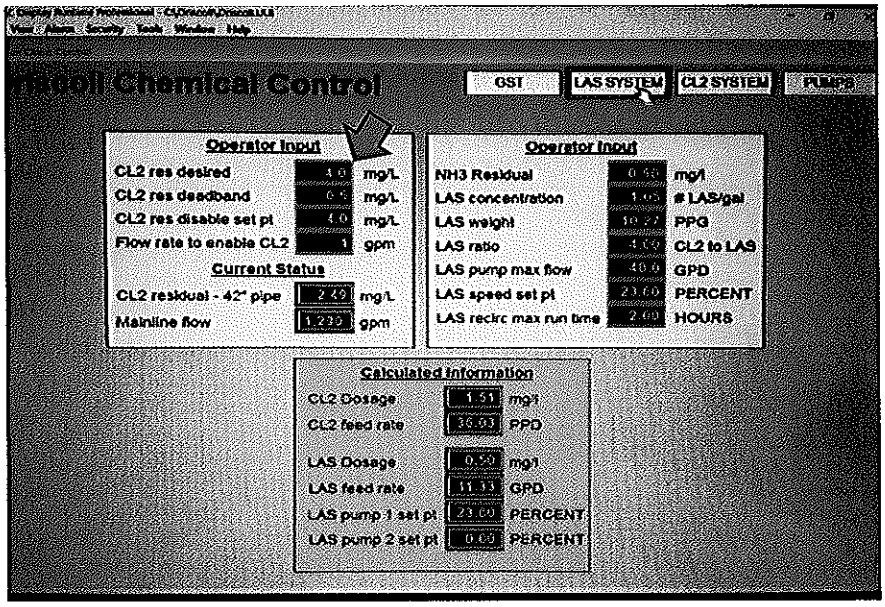
1. At the PLC panel (labeled '**RTU Extension**'), touch the screen to wake it from sleep mode – the screen will look black while in the sleep mode. See photos below.



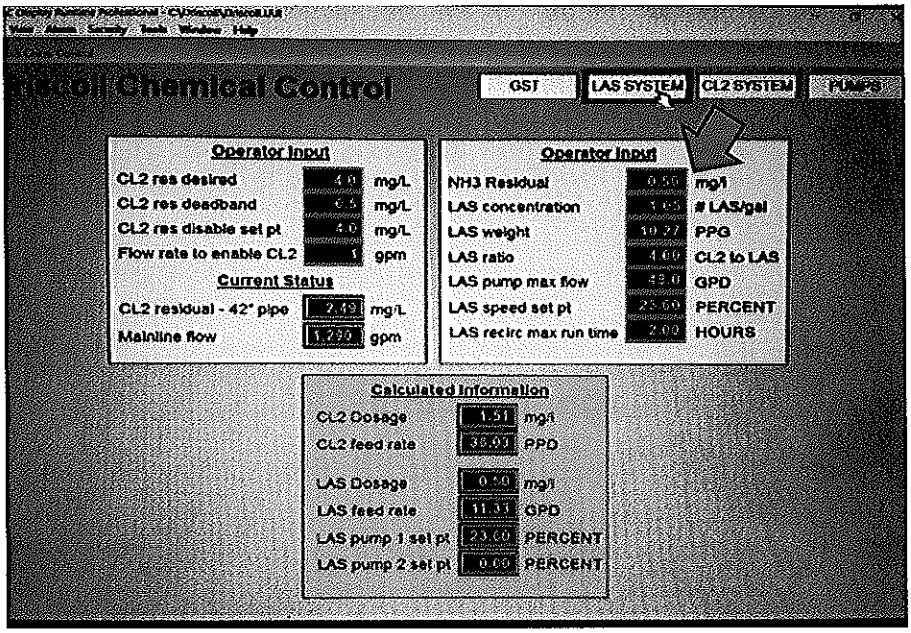
2. It may be necessary to press the **CONTROL** tab on the screen to go to the page called '**Driscoll Chemical Control.**' **ALL RATIO CALCULATIONS ARE PERFORMED BY THE SCADA PROGRAM.**



3. To change the desired **Chlorine Set Point**:
    a. Touch the red box next to the label titled '**Cl2 res desired.**'
    b. A number pad should appear
    c. Enter the desired residual and press 'OK.' YOU MAY NEED TO ENTER THE NUMBER SEVERAL TIMES – THE NUMBER NEEDS TO REMAIN RECORDED FOR AT LEAST ONE (1) MINUTE.



4. To Change or Update the **Free Available Ammonia** reading of the incoming water from the ON Stevens WTP (prior to boosting):
    a. Touch the red box next to the label titled 'NH3 Residual.'
    b. A number pad should appear.
    c. Enter the residual that was obtained at the "before" sample site location.
    d. Then touch 'OK.' YOU MAY NEED TO ENTER THE NUMBER SEVERAL TIMES – THE NUMBER NEEDS TO REMAIN RECORDED FOR AT LEAST ONE (1) MINUTE.



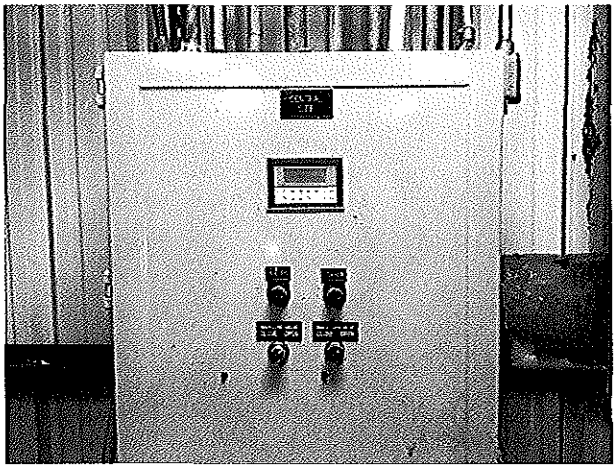
Chlorine and LAS dosing procedures are available in the **Driscoll LAS System – Functional Description** document for the Driscoll Disinfectant Booster Station. The document contains information on how the PLC and SCADA system is programmed, and the calculations used by the systems to set dosage and feed rates.

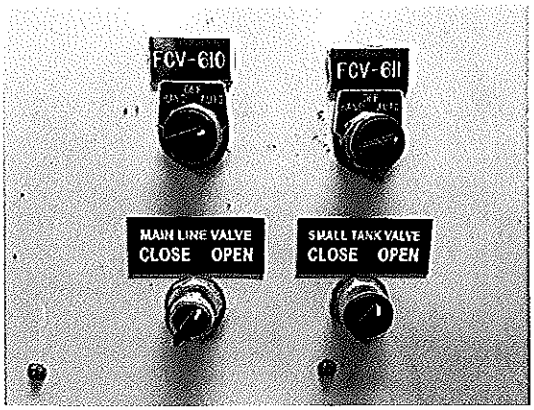
Chlorine and LAS Dosing – Central PS Disinfectant Booster Station

As a Field Tech, you need to be familiar with the following equipment and computer applications illustrated below. **ALL RATIO CALCULATIONS MUST BE PERFORMED MANUALLY.**

It is important to note while performing Chlorine and LAS adjustments that attention must be paid to the level of the ground storage tanks (GST) to avoid overflowing the GSTs. Performing these adjustments will require equipment to be in the "HAND" – "OPEN" position. Check tanks levels on the LCD Screen above the MOV controls labeled 'FCV-610' and 'FCV-611.'

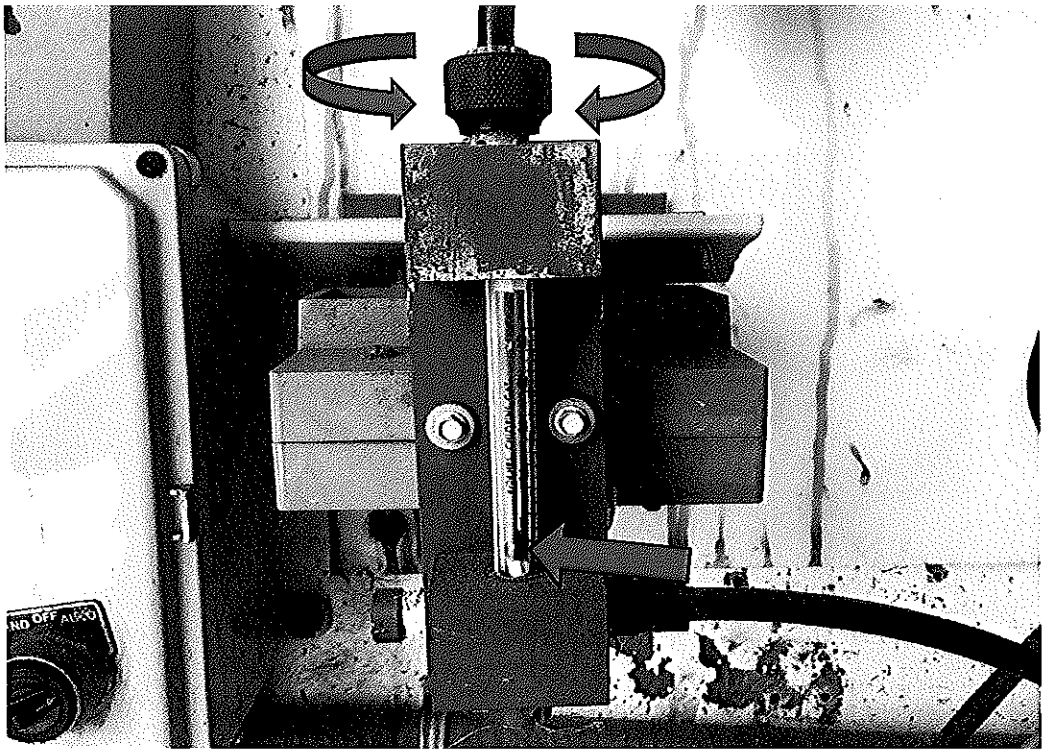
1. To adjust the **CHLORINE** levels at the Central Pump Station, the following steps must first occur:
    a. Open the Motor Operated Valves (MOVs)
        i. To open the MOVs, enter the Pump Station and go to the panel labeled 'Central Site.' The two (2) HOA (Hand-Off-Auto) switches labeled 'FCV-610' and 'FCV-611' must be placed in the "HAND" position. See Below.





        ii. Then, the two (2) other switches labeled 'Main Line Valve' and 'Small Tank Valve' must be placed in the "OPEN" position. See Above.
    b. Turn on the Chlorine – AFTER both MOVs are opened
        i. At the chlorine building located at the NORTHEAST corner of the Pump Station, locate the HOA switch on the WEST wall inside the chlorine building and place the switch in the "HAND" position. This will also turn on the LAS injection system.

c. With Step 1a and Step 1b complete, you will be able to adjust the amount of the Chlorine injection using the rotameter located to the right of the Chlorine HOA switch.
d. To increase or decrease the Pounds Per Day (PPD) of Chlorine, turn the knob located ON THE TOP of the rotameter. See Below.
    i. COUNTERCLOCKWISE – will INCREASE the PPD
    ii. CLOCKWISE – will DECREASE the PPD.



e. Set the desired PPD by matching the CENTER of the ball inside the rotameter with the desired PPD marked on the sight glass of the rotameter. See Above.

2. Once the desired chlorine PPD is set, you will need to go to the LAS building located to the south the chlorine building, to adjust the **amount of LAS** in the correct ratio.

a. The FIRST step is to calculate the milliliters per minute of LAS needed.
b. This will require using the following formula:
(PPD of Chlorine ÷ Desired Ratio) then divided by 1.06 = **Gallons Per Day**
c. To convert the Gallons Per Day to Milliliters Per Minute, use the following formula:
(Gallons Per Day X 3785) ÷ 1440 = **Milliliters Per Minute**

For Example – You want to inject **20 pounds** per day with a **ratio of 4:1**

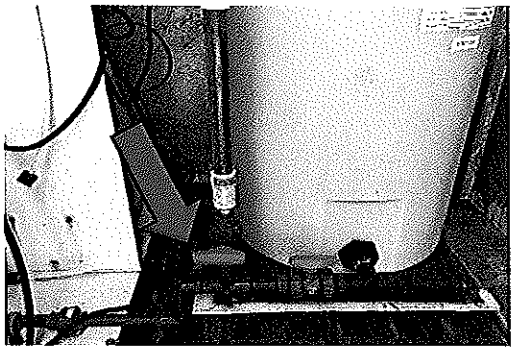
First calculated Gallons Per Day

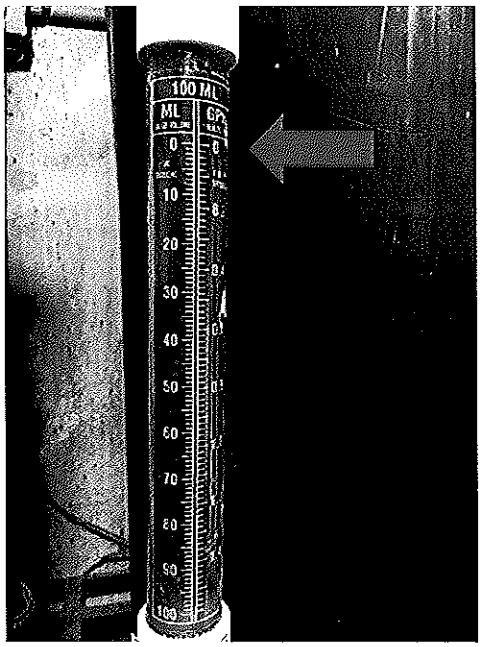
$$\frac{(20 \div 4)}{1.06} = \frac{5}{1.06} = 4.72 \text{ Gallon Per Day}$$

Then Gallons Per Day to Milliliters Per Minute:

$$\frac{4.72 \text{ X } 3{,}785}{1440} = \frac{17{,}865.2}{1440} = 12.41 \text{ Milliliters Per Minute}$$

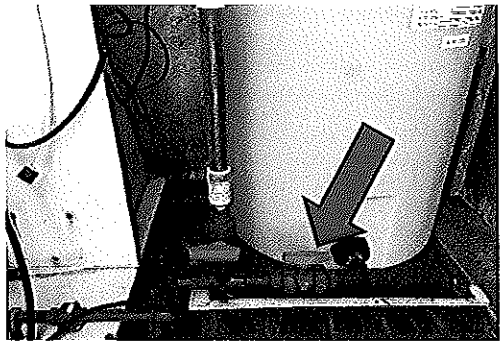
d. Once the Milliliter Per Minute value (number) is calculated, you can proceed to the next step. Remember – you must know the desired Chlorine in Pounds Per Day and the RATIO of Chlorine to Ammonia. Don't forget to calculate BOTH formulas.
e. Next, fill the sight glass located by the LAS drum. This is done by SLOWLY opening the cut-off valve <u>located directly below the sight glass</u>. Fill the liquid up to the ZERO - top mark - on the glass. Do not overfill the sight glass. DO NOT OVERFILL THE SIGHT GLASS. VALUABLE TIME WILL BE LOST WAITING FOR THE SYSTEM TO USE LAS AND LOWER THE LEVEL AS PART OF



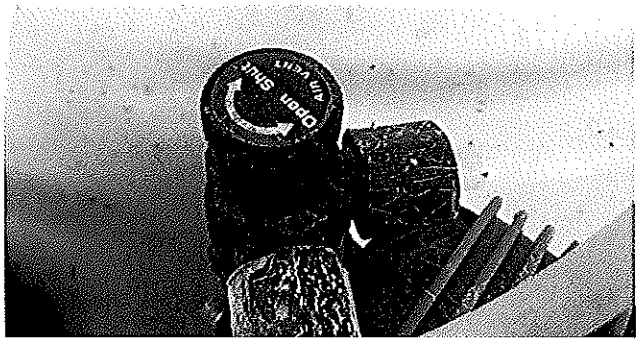


NORMAL OPERATIONS.

f. While the sight glass is filling, begin closing the other cut-off valve <u>located on the main LAS feed line</u> which is normally in the open position. This is done simultaneously in order to prevent air getting into the line and causing the LAS pump to lose prime. If this happens, you will hear a difference in the sound of the LAS pump. (See Step 10 below.)

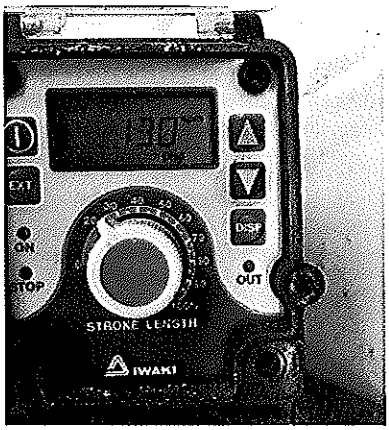


g. NOTE: If you don't see the level in the LAS sight glass lowering, the LAS pump may have lost its prime. To remove trapped air, OPEN the air vent located on top of the LAS pump that is in operation.



h. After the LAS pump is primed, CLOSE the air vent. The LAS level in the sight glass should go down (lower).

3. Next, you need to have a timer application on your phone, a stopwatch or a watch with a second hand to conduct the 1-minute drawdown test.
4. The LAS in the sight glass must be at the ZERO mark. If it is not, re-do Step 2e & Step 2f to fill the sight glass to the ZERO mark. These steps will need to be done repeatedly while performing the drawdown after adjustments are made.
5. Start timing the 1-minute, observe how many milliliters are used (the level drops) in the 60 seconds.
6. The number of milliliters used in the 60 seconds needs to match to the Milliliters Per Minute that you calculated in **Step 2c**.
7. If the Milliliters Per Minute do not match, you must adjust the amount of LAS usage by increasing or decreasing the stroke strength and/or strokes per minute (SPM) located on the LAS pump face. Stroke strength is adjusted by turning the knob and SPM is adjusted by pushing the up/down arrows. See next page for Photo.



8. After the LAS stroke strength and/or SPM is adjusted, you must perform the 60 second – 1-minute drawdown test to verify that the amount of LAS used in a minute matches the amount you calculated in **Step 2c**. If it does not match, adjust the stroke strength and/or SPM again – and verify with a 1-minute drawdown test. YOU WILL NEED TO FILL THE SIGHT GLASS BACK UP TO ZERO BY OPENING THE MAIN LAS LINE VALVE.
9. IMPORTANT – once the Milliliters Per Minute is correct, you MUST return the cut-off valves to the correct positions. The cut-off valve below the sight glass should be CLOSED. The cut-off valve to the Main LAS Line must be OPENED. The CLOSING and OPENING of the valves should be done AT THE SAME TIME (SIMULTANEOUSLY) to avoid getting air into the line and causing the LAS pump to lose prime.
10. If prime is lost, refer to Step 2g. A LAS pump that has lost prime will sound like a pencil point hitting a desk. A LAS pump that is operating **properly** will sound like the **eraser** of a pencil hitting a desk.
11. **RETURN THE PUMP STATION TO NORMAL OPERATIONS** – You must now restore the controls on the MOVs and Chlorine pump to the previous automatic mode.
12. **For the MOVs**, go back into the pump station and turn both HOA switches (FCV -610 and FCV-611) back to the 'AUTO' position. The MOVs may not close immediately if the tank levels are calling for water to fill the tanks. In other words, the water levels in the tanks are lower than the high set points.
13. **For the Chlorine Pump**, go to the chlorine building and turn the HOA switch back to the 'AUTO' position. This pump may not turn off immediately if the tanks are filling.

References

The following references provide additional information on the formation and maintenance of Chloramines.

TCEQ – Chloramines 101

TCEQ – Fact Sheet on Chloramine Requirements

TCEQ – Course Manual: Process Control for Systems Using Chloramines