

**CITY OF SHAVANO PARK
WATER ADVISORY COMMITTEE MEETING
900 SADDLETREE COURT, SHAVANO PARK, TX 78231
MARCH 11, 2019
6:30 PM
AGENDA**

1. CALL TO ORDER

2. ROLL CALL

3. CITIZENS TO BE HEARD

The Water Advisory Committee welcomes Citizens to be heard, we request that if you wish to speak that you follow these guidelines – Resolution No. 04-11 residents are given three (3) minutes to speak during Citizens to be heard. Citizens are only allowed to speak once and cannot pass their time allotment to someone else. In compliance with the Texas Open Meetings Act, the Water Advisory Committee may not deliberate on comments (Attorney General Opinion – JC0169)

4. CONSENT AGENDA

- a. Approval – Water Advisory Committee Meeting Minutes, February 11, 2019

5. REPORTS - Public Works Director Update

- a. Water system
 - a. Water System Infrastructure Updates
- b. Financial Report
 - a. January Report

6. REGULAR BUSINESS

- a. Discussion – City of Shavano Park Water Rate Structure - Chairman Walea
- b. Discussion – Irrigation System Backflow Prevention Requirements - Director Peterson

7. FUTURE ITEMS

- a. Franchise Agreement with SAWS (expire June 2019)
- b. Delinquent Account Procedures
- c. Addressing inactive wells
- d. Policy #12 Water Adjustment Procedure Clarification – Director Peterson

8. ADJOURNMENT

I, the undersigned authority, do hereby certify that the above Notice of Meeting of the governing body of the above named City of Shavano Park Water Advisory Committee is a true and correct copy of said Notice and that I posted a true and correct copy of said Notice on the bulletin boards, of the City Hall of said City Shavano Park, Texas, a place convenient and readily accessible to the general public at all times, and said Notice was posted on this the 4th of March 2019 at 11:20 a.m. and remained so posted continuously for at least 72 hours preceding the scheduled time of said meeting.

Zina Tedford
City Secretary

Accessibility Statement

The City of Shavano Park City Hall is wheelchair accessible. The entry ramp is located in the front of the building. Accessible parking spaces are also available in the front and sides of the building. Sign interpretative services for meetings must be made 48 hours in advance of the meeting. Call the A.D.A. Coordinator at 817-447-5400 or TDD 1-800-735-2989.

**CITY OF SHAVANO PARK
WATER ADVISORY COMMITTEE MEETING
900 SADDLETREE CT., SHAVANO PARK, TX 78231
MONDAY, FEBRUARY 11, 2019**

**6:30 P.M.
MINUTES**

1. CALL TO ORDER

The meeting was called to order at 6:35 p.m. by Chairman Walea

2. ROLL CALL:

PRESENT:

Al Walea
Sam Bakke
Matt Trippy
Tommy Peyton

ABSENT:

Tomas Palmer
Steve Fleming

3. CITIZENS TO BE HEARD

No one addressed the committee at this time

4. CONSENT AGENDA

a. Approval – WAC Minutes of January 14, 2019

Member Peyton moved to accept the minutes as submitted, Member Bakke seconded. Motion passed.

5. REPORTS - Public Works Director Update

a. Water System

a. Water System Infrastructure Update

Director Peterson reviewed the activities on the wells. Well # 6 will be out of service tomorrow for approximately 6 hours while CPS replaces a pole and wires. Hopefully this will resolve the default issues we've experienced. Also tomorrow both # 5 and # 9 will be down while the sand media will be replaced and it should be back up in operation by Wednesday. One or two valves at # 1 have to be replaced and this will be done while it's offline. There was a leak in the main on Wagon Trail towards Shavano Dr. It appears that a valve at # 5 was turned off. A repair on the line was made so it's a straight line from Well # 5 to the tank. Driveway into Well # 6 is in the process of having an all-weather surface from DeZavala Rd. back to the well site.

b. Financial Report

a. December Report

Finance Director Morey reviewed both the revenues and expenditures for the month and feels comfortable that everything is tracking within budget guidelines.

6. REGULAR BUSINESS

- a. Discussion - City of Shavano Park Water Rate Study – Chairman Walea
Chairman Walea indicated that the members who volunteered were unable to meet due to other commitments on several days, yet it would be beneficial to them to find a date/time they are available in the next week to go over the materials and discuss ways to possibly raise the water rates. A date was set for Wednesday, February 20th at 5:00 p.m. at City Hall.
- b. Discussion – Backflow Inspection/Ordinance – Director Peterson
A short review of the handouts was done. Director Peterson explained that TCEQ is requiring that residents with irrigation systems and septic systems will need to have a RPBA or reduced principal backflow assembly. They will need to have a licensed backflow inspector do a yearly inspection. Most of the residents that have backflow preventers in Shavano Park have double-check valves. Director Peterson will come back with actual rules, examples and possible ordinance wording.

7. FUTURE ITEMS: Chairman Walea wanted to put items in priority status:

- a. NW Military expansion progress – next meeting scheduled in April – 30 % information & June 60% of progress
- b. Study of water rate increase
- c. Emergency Interconnect Agreement with SAWS
- d. Franchise Fees with SAWS expire June 2019
- e. TCEQ – Decision on what to do about inactive wells
- f. Backflow Inspection Enforcement – An ordinance needs to be developed prior to our next TCEQ audit.
- g. Water Adjustment Procedure clarification - Policy # 12
- h. Delinquent Account Procedures

8. ADJOURNMENT

Member Peyton made a motion to adjourn, member Trippy seconded.
Motion passed. Meeting adjourned at 7:25 p.m.

Peggy Stone
PW/Water Utility
Office Manager

Al Walea, Chairman

Date: _____

WATER ADVISORY COMMITTEE STAFF SUMMARY

Meeting Date: March 11, 2019

Agenda item: 5.b.

Prepared by: Brenda Morey

Reviewed by: Bill Hill

AGENDA ITEM DESCRIPTION:

Presentation of January 2019 Monthly Reports

X

Attachments for Reference:

a) January 2019 Revenue and Expense Report

BACKGROUND / HISTORY: The current data provided in the attachments are for the FY 2018-19 budget period, month ending January 31, 2019. The “Current Budget” column within the attached report contains the original adopted budget. This summary highlights a number of points related to the current month’s activity.

DISCUSSION:

As of January 31, 2019, the Water Fund total revenues are \$185,378 or 20.73% of the total annual budgeted amount. Water Fund (Water Department & Debt Service) expenses total \$234,507 or 26.22% of budget.

Revenues:

-Water consumption (5015) billed in January for the month of December is \$20,167. Total consumption for the month is approximately 2,938,000 gallons less than the previous year or \$10,735 of revenue.

-The Debt Service (5018) and Water Service Fee (5019) remain on target with annual budgeted amounts as these are flat fees and are not related to volume charges recognized, at 33.48% and 33.87% respectively.

-The EAA Pass Thru (5036) fees are charged to customers based on usage, \$3,050 was recorded for the month and 17.23% of the annual budgeted amount has been recognized to date.

Expenses:

Water department (606) expenses for the day-to-day operations are on track with budget with a total of \$63,194 for the month or 33.17% of the budget utilized. Fire Hydrants (6055) includes costs to purchase 5 hydrants and riser components as 19 hydrants are old and need to be replaced. As they are being replaced, risers are being added so the Fire Department has sufficient clearance to facilitate valve opening (to turn the wrench a complete 360). Water System maintenance expenses (6072) includes four gate valves at \$505 each and a late billing on service line piping as the Utility restocks its materials inventory. Water System improvements (8080) reflects payment on Well 5 rebuild for labor, supplies and camera survey that was under dispute as the work was repeated due to the replacement motor being burned out.

Debt service payments are scheduled for February and August.

Payroll:

The City is on a bi-weekly payroll; there have been 9 pay periods out of 26 so approximately 34.62% should be expensed in the line items directly related to personnel. This is a higher percentage than the % of year completed at 33.33%, which explains why the department is ahead of the budget in this area at this time. TMRS (1040) expense is at approximately 38.72%, on track with the related salaries (1010) and overtime (1015) accounts and a bit ahead of budget, as discussed earlier. Expense for Workers' Comp Insurance (1037) is recognized quarterly with the next calculation in March. Employee insurance related line items are on budget at approximately 33.37% or 4 months.

COURSES OF ACTION: None related to the Report.

FINANCIAL IMPACT: N/A

STAFF RECOMMENDATION: N/A

20 -WATER FUND

FINANCIAL SUMMARY

% OF YEAR COMPLETED: 33.33

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	BUDGET BALANCE	% OF BUDGET
<u>REVENUE SUMMARY</u>					
NON-DEPARTMENTAL	<u>894,299.00</u>	<u>36,238.19</u>	<u>185,378.21</u>	<u>708,920.79</u>	<u>20.73</u>
TOTAL REVENUES	894,299.00 =====	36,238.19 =====	185,378.21 =====	708,920.79 =====	20.73 =====
<u>EXPENDITURE SUMMARY</u>					
WATER DEPARTMENT	707,084.00	63,193.96	234,506.72	472,577.28	33.17
DEBT SERVICE	<u>187,215.00</u>	<u>0.00</u>	<u>0.00</u>	<u>187,215.00</u>	<u>0.00</u>
TOTAL EXPENDITURES	894,299.00 =====	63,193.96 =====	234,506.72 =====	659,792.28 =====	26.22 =====
REVENUES OVER/(UNDER) EXPENDITURES	0.00	(26,955.77)	(49,128.51)	49,128.51	0.00

20 -WATER FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 33.33

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	BUDGET BALANCE	% OF BUDGET
<u>NON-DEPARTMENTAL</u>					
<u>WATER SALES</u>					
20-599-5015 WATER CONSUMPTION	621,347.00	20,167.35	97,925.45	523,421.55	15.76
20-599-5016 LATE CHARGES	6,000.00	574.37	2,177.56	3,822.44	36.29
20-599-5017 CAPITAL RESERVE FUND	0.00	0.00	0.00	0.00	0.00
20-599-5018 DEBT SERVICE	53,453.00	4,486.40	17,894.40	35,558.60	33.48
20-599-5019 WATER SERVICE FEE	58,092.00	4,917.72	19,673.34	38,418.66	33.87
20-599-5036 EAA PASS THRU CHARGE	83,319.00	3,049.60	14,359.10	68,959.90	17.23
20-599-5037 CONNECTION/DISCONNECT FEE	0.00	0.00	0.00	0.00	0.00
20-599-5040 TAPPING FEES	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL WATER SALES	822,211.00	33,195.44	152,029.85	670,181.15	18.49
<u>MISC./GRANTS/INTEREST</u>					
20-599-7000 INTEREST INCOME	9,500.00	1,106.73	4,854.25	4,645.75	51.10
20-599-7011 OTHER INCOME	0.00	515.82	784.46 (	784.46)	0.00
20-599-7012 LEASE OF WATER RIGHTS	17,108.00	0.00	2,500.00	14,608.00	14.61
20-599-7040 ASR LEASE PROGRAM	0.00	0.00	0.00	0.00	0.00
20-599-7060 CC SERVICE FEES	1,200.00	115.43	383.87	816.13	31.99
20-599-7075 SITE/TOWER LEASE REVENUE	15,500.00	1,304.77	5,209.28	10,290.72	33.61
20-599-7090 SALE OF FIXED ASSETS	0.00	0.00	230.50 (	230.50)	0.00
20-599-7097 INSURANCE PROCEEDS	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL MISC./GRANTS/INTEREST	43,308.00	3,042.75	13,962.36	29,345.64	32.24
<u>TRANSFERS IN</u>					
20-599-8072 TRF IN - CAPITAL REPLACEMEN	28,780.00	0.00	19,386.00	9,394.00	67.36
20-599-8090 PRIOR PERIOD ADJUSTMENT	0.00	0.00	0.00	0.00	0.00
20-599-8099 TRF IN - RESERVES	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL TRANSFERS IN	28,780.00	0.00	19,386.00	9,394.00	67.36
TOTAL NON-DEPARTMENTAL	894,299.00	36,238.19	185,378.21	708,920.79	20.73
TOTAL REVENUES	894,299.00	36,238.19	185,378.21	708,920.79	20.73
	=====	=====	=====	=====	=====

20 -WATER FUND
WATER DEPARTMENT

% OF YEAR COMPLETED: 33.33

EXPENDITURES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	BUDGET BALANCE	% OF BUDGET
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PERSONNEL

20-606-1010 SALARIES	185,260.00	13,802.29	63,413.01	121,846.99	34.23
20-606-1015 OVERTIME	7,000.00	1,158.66	4,015.09	2,984.91	57.36
20-606-1020 MEDICARE	2,615.00	220.82	1,000.39	1,614.61	38.26
20-606-1025 TWC (SUI)	828.00	0.00	0.00	828.00	0.00
20-606-1030 HEALTH INSURANCE	26,544.00	2,216.60	8,867.69	17,676.31	33.41
20-606-1031 HSA	178.00	13.08	52.32	125.68	29.39
20-606-1033 DENTAL INSURANCE	1,480.00	120.82	483.31	996.69	32.66
20-606-1035 VISION CARE INSURANCE	325.00	28.72	114.91	210.09	35.36
20-606-1036 LIFE INSURANCE	318.00	26.62	106.51	211.49	33.49
20-606-1037 WORKERS' COMP INSURANCE	6,551.00	0.00	1,577.38	4,973.62	24.08
20-606-1040 TMRS RETIREMENT	25,157.00	2,177.23	9,741.91	15,415.09	38.72
20-606-1070 SPECIAL ALLOWANCES	<u>11,400.00</u>	<u>646.19</u>	<u>3,271.33</u>	<u>8,128.67</u>	<u>28.70</u>
TOTAL PERSONNEL	267,656.00	20,411.03	92,643.85	175,012.15	34.61

SUPPLIES

20-606-2020 OFFICE SUPPLIES	1,400.00	0.00	814.57	585.43	58.18
20-606-2030 POSTAGE	2,500.00	227.15	1,030.12	1,469.88	41.20
20-606-2050 PRINTING & COPYING	600.00	0.00	444.92	155.08	74.15
20-606-2060 MED EXAMS/SCREENING/TESTING	0.00	0.00	0.00	0.00	0.00
20-606-2070 JANITORIAL SUPPLIES	100.00	0.00	0.00	100.00	0.00
20-606-2075 BANK/CREDITCARD FEES	5,100.00	299.36	1,953.28	3,146.72	38.30
20-606-2080 UNIFORMS	1,200.00	0.00	336.22	863.78	28.02
20-606-2090 SMALL TOOLS	2,000.00	0.00	359.23	1,640.77	17.96
20-606-2091 SAFETY SUPPLIES/EQUIPMENT	<u>1,200.00</u>	<u>0.00</u>	<u>0.00</u>	<u>1,200.00</u>	<u>0.00</u>
TOTAL SUPPLIES	14,100.00	526.51	4,938.34	9,161.66	35.02

SERVICES

20-606-3012 ENGINEERING SERVICES	1,000.00	0.00	0.00	1,000.00	0.00
20-606-3013 PROFESSIONAL SERVICES	500.00	0.00	0.00	500.00	0.00
20-606-3020 ASSOCIATION DUES & PUBS	2,215.00	111.00	331.00	1,884.00	14.94
20-606-3030 TRAINING/EDUCATION	3,000.00	930.00	1,790.00	1,210.00	59.67
20-606-3040 TRAVEL/MILEAGE/LODGING/PERD	1,500.00	0.00	69.96	1,430.04	4.66
20-606-3050 INSURANCE - LIABILITY	3,795.00	0.00	3,870.13 (	75.13)	101.98
20-606-3060 UNIFORM SERVICES	3,000.00	239.47	714.63	2,285.37	23.82
20-606-3070 INSURANCE - PROPERTY	1,850.00	0.00	1,886.62 (	36.62)	101.98
20-606-3075 WATER CONSERVATION EDUCATIO	100.00	0.00	0.00	100.00	0.00
20-606-3080 SPECIAL SERVICES	300.00	58.00	98.00	202.00	32.67
20-606-3082 WATER ANALYSIS FEES	<u>6,500.00</u>	<u>185.00</u>	<u>2,226.91</u>	<u>4,273.09</u>	<u>34.26</u>
TOTAL SERVICES	23,760.00	1,523.47	10,987.25	12,772.75	46.24

CONTRACTUAL

20-606-4075 COMPUTER SOFTWARE/INCODE	10,292.00	1,112.72	4,394.00	5,898.00	42.69
20-606-4085 EAA -WATER MANAGEMENT FEES	84,084.00	7,006.52	23,826.08	60,257.92	28.34
20-606-4086 CONTRACT LABOR	0.00	0.00	0.00	0.00	0.00
20-606-4099 WATER RIGHTS/LEASE PAYMENTS	<u>10,851.00</u>	<u>0.00</u>	<u>12,281.50 (</u>	<u>1,430.50)</u>	<u>113.18</u>
TOTAL CONTRACTUAL	105,227.00	8,119.24	40,501.58	64,725.42	38.49

20 -WATER FUND

WATER DEPARTMENT

% OF YEAR COMPLETED: 33.33

EXPENDITURES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	BUDGET BALANCE	% OF BUDGET
<u>MAINTENANCE</u>					
20-606-5005 EQUIPMENT LEASES	1,500.00	0.00	0.00	1,500.00	0.00
20-606-5010 EQUIPMENT MAINT & REPAIR	6,500.00	0.00	0.00	6,500.00	0.00
20-606-5015 ELECTRONIC EQPT MAINTENANCE	500.00	0.00	0.00	500.00	0.00
20-606-5020 VEHICLE MAINTENANCE	2,000.00	640.73	857.98	1,142.02	42.90
20-606-5030 BUILDING MAINTENANCE	2,000.00	269.20	1,219.84	780.16	60.99
20-606-5060 VEHICLE & EQPT FUELS	<u>3,000.00</u>	<u>419.47</u>	<u>1,862.11</u>	<u>1,137.89</u>	<u>62.07</u>
TOTAL MAINTENANCE	15,500.00	791.00	3,939.93	11,560.07	25.42
<u>DEPT MATERIALS-SERVICES</u>					
20-606-6011 CHEMICALS	17,000.00	701.89	9,243.97	7,756.03	54.38
20-606-6050 WATER METERS & BOXES	4,500.00	1,643.76	1,731.94	2,768.06	38.49
20-606-6055 FIRE HYDRANTS	3,000.00	10,563.14	10,563.14	(7,563.14)	352.10
20-606-6060 HUEBNER STORAGE TANK	6,000.00	47.32	47.32	5,952.68	0.79
20-606-6061 ELEVATED STORAGE TANK- #1 W	3,000.00	0.00	996.00	2,004.00	33.20
20-606-6062 WELL SITE #2-EAA MONITORED	100.00	0.00	0.00	100.00	0.00
20-606-6063 WELL SITE #3-NOT OPERATION	0.00	0.00	0.00	0.00	0.00
20-606-6064 WELL SITE #4-NOT OPERATION	0.00	0.00	0.00	0.00	0.00
20-606-6065 WELL SITE #5-EDWARDS BLENDI	3,000.00	47.31	47.31	2,952.69	1.58
20-606-6066 WELL SITE #6-MUNI TRACT	1,000.00	347.32	647.32	352.68	64.73
20-606-6067 WELL SITE #7	5,000.00	47.32	47.32	4,952.68	0.95
20-606-6068 WELL SITE #8	3,500.00	647.31	1,196.31	2,303.69	34.18
20-606-6069 WELL SITE #9-TRINITY	2,000.00	0.00	0.00	2,000.00	0.00
20-606-6070 SCADA SYSTEM MAINTENANCE	2,000.00	0.00	0.00	2,000.00	0.00
20-606-6071 SHAVANO DRIVE PUMP STATION	7,000.00	641.60	6,840.26	159.74	97.72
20-606-6072 WATER SYSTEM MAINTENANCE	13,305.00	6,783.99	10,412.88	2,892.12	78.26
20-606-6080 STREET MAINT SUPPLIES	<u>1,500.00</u>	<u>0.00</u>	<u>57.50</u>	<u>1,442.50</u>	<u>3.83</u>
TOTAL DEPT MATERIALS-SERVICES	71,905.00	21,470.96	41,831.27	30,073.73	58.18
<u>UTILITIES</u>					
20-606-7040 UTILITIES - ELECTRIC	70,000.00	523.62	10,358.91	59,641.09	14.80
20-606-7042 UTILITIES - PHONE/CELL	800.00	18.99	75.96	724.04	9.50
20-606-7044 UTILITIES - WATER	<u>300.00</u>	<u>12.09</u>	<u>46.58</u>	<u>253.42</u>	<u>15.53</u>
TOTAL UTILITIES	71,100.00	554.70	10,481.45	60,618.55	14.74
<u>CAPITAL OUTLAY</u>					
20-606-8010 NON-CAP ELECTRONIC EQUIPMEN	0.00	0.00	0.00	0.00	0.00
20-606-8015 NON-CAPITAL - COMPUTERS	0.00	0.00	0.00	0.00	0.00
20-606-8020 NON-CAPITAL MAINTENANCE EQU	1,000.00	0.00	0.00	1,000.00	0.00
20-606-8045 CAPITAL-COMPUTER EQUIPMENT	0.00	0.00	0.00	0.00	0.00
20-606-8050 CAPITAL - VEHICLES	0.00	0.00	0.00	0.00	0.00
20-606-8060 CAPITAL- EQUIPMENT	29,060.00	0.00	19,386.00	9,674.00	66.71
20-606-8080 WATER SYSTEM IMPROVEMENTS	10,000.00	9,797.05	9,797.05	202.95	97.97
20-606-8081 CAPITAL - BUILDING	0.00	0.00	0.00	0.00	0.00
20-606-8085 CAPITAL-WATER TOWER/STORAGE	0.00	0.00	0.00	0.00	0.00
20-606-8087 WATER METER REPLACEMENT	<u>3,780.00</u>	<u>0.00</u>	<u>0.00</u>	<u>3,780.00</u>	<u>0.00</u>
TOTAL CAPITAL OUTLAY	43,840.00	9,797.05	29,183.05	14,656.95	66.57

20 -WATER FUND

WATER DEPARTMENT

% OF YEAR COMPLETED: 33.33

EXPENDITURES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	BUDGET BALANCE	% OF BUDGET
<u>INTERFUND TRANSFERS</u>					
20-606-9000 EOY ASSET RECLASS	0.00	0.00	0.00	0.00	0.00
20-606-9010 TRF TO GENERAL FUND	22,050.00	0.00	0.00	22,050.00	0.00
20-606-9020 TRF TO CAPITAL REP. FUND 72	71,946.00	0.00	0.00	71,946.00	0.00
20-606-9050 BAD DEBT EXPENSE	0.00	0.00	0.00	0.00	0.00
20-606-9090 DEPRECIATION EXPENSE	0.00	0.00	0.00	0.00	0.00
20-606-9095 PENSION EXPENSE	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL INTERFUND TRANSFERS	93,996.00	0.00	0.00	93,996.00	0.00
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TOTAL WATER DEPARTMENT	707,084.00	63,193.96	234,506.72	472,577.28	33.17

20 -WATER FUND
DEBT SERVICE

% OF YEAR COMPLETED: 33.33

EXPENDITURES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	BUDGET BALANCE	% OF BUDGET
<u>CAPITAL OUTLAY</u>					
20-607-8000 BOND PRINCIPAL EOY	0.00	0.00	0.00	0.00	0.00
20-607-8011 ACCRUED BOND INTEREST	0.00	0.00	0.00	0.00	0.00
20-607-8012 2009 CO - PRINCIPAL	0.00	0.00	0.00	0.00	0.00
20-607-8013 2009 CO - INTEREST	0.00	0.00	0.00	0.00	0.00
20-607-8014 2009 GO REFUND - PRINCIPAL	40,072.50	0.00	0.00	40,072.50	0.00
20-607-8015 2009 GO REFUND - INTEREST	13,830.00	0.00	0.00	13,830.00	0.00
20-607-8016 2017 GO REFUNDING (2009) PR	65,000.00	0.00	0.00	65,000.00	0.00
20-607-8017 2017 GO REFUNDING (2009) IN	68,162.50	0.00	0.00	68,162.50	0.00
20-607-8020 BOND UNAMORTIZED LOSS	0.00	0.00	0.00	0.00	0.00
20-607-8030 BOND AGENT FEES	150.00	0.00	0.00	150.00	0.00
20-607-8035 BOND ISSUANCE COSTS	0.00	0.00	0.00	0.00	0.00
20-607-8056 2018 GO REFUNDING (2009) PR	0.00	0.00	0.00	0.00	0.00
20-607-8057 2018 GO REFUNDING (2009) IN	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL CAPITAL OUTLAY	187,215.00	0.00	0.00	187,215.00	0.00
<hr/>					
TOTAL DEBT SERVICE	187,215.00	0.00	0.00	187,215.00	0.00
<hr/>					
TOTAL EXPENDITURES	894,299.00	63,193.96	234,506.72	659,792.28	26.22
	=====	=====	=====	=====	=====
REVENUES OVER/(UNDER) EXPENDITURES	0.00 (	26,955.77) (	49,128.51)	49,128.51	0.00
	=====	=====	=====	=====	=====

WATER ADVISORY COMMITTEE STAFF SUMMARY

Meeting Date: March 11, 2019

Agenda item: 6.a.

Prepared by: Brenda Morey

Reviewed by: Bill Hill

AGENDA ITEM DESCRIPTION: Discussion – City of Shavano Park Water Rate Structure

X

Attachments for Reference:

a) Rate Structure Analysis and supporting schedules

BACKGROUND / HISTORY: The rate structure currently in use by the City's water utility was first approved October 2004 with a minor increase being made since then. It is a combination of fixed rates for the debt service and water service fees and variable rates for water consumption and EAA management fees. The water consumption fee is progressive, charging more per gallon to higher volume users.

The Utility Fund has incurred significant expenses in recent years, reducing cash reserves by over \$700,000 from September 2013 to September 2018.

DISCUSSION: The Rate Study subcommittee met on February 20, 2019, to discuss various options for the water rates. Consensus was reached to consider rate increases in three of the four fee categories - water consumption, debt service and water service, leaving the EAA fee unchanged.

The Rate Structure Analysis (attached) shows each fee category's current rate, and two options for consideration, as well as supporting schedules, historical operating information and sample bill calculations.

- For water consumption fees, increases of 5% and 8% are being considered.
- For the debt service fee, an increase of 50% from the current fee and 50% of the cost of debt service per customer are being considered.
- For the water service fee, a 50% increase from the current fee and specific dollar increases for each meter size, ranging from \$5 increase in the 5/8" meter charge to \$20 increase in the 2" meter charge, are being considered.
- Additionally, a 5% increase in year 2 and year 3 in the water consumption fee only is being calculated.

The various rates were applied to the average annual consumption based on the most recently completed five fiscal years, and the number of customers and meters in service from the February 2019 billing reports.

The various options were then used to develop four revenue scenarios, as follows:

- #1 – 5% increase in water consumption fee, 50% in debt service fee and 50% in water service fee provides an estimated \$87,000 of additional revenue the first year. With an additional 5% increase in the water consumption fee in years 2 and 3, additional revenue of \$32,000 and \$34,000 would be generated.
- #2 – 5% increase in water consumption, 50% of the cost of debt service per customer as the debt service fee and 50% increase in the water service fee, would provide an estimated \$101,000 of revenue in the first year. With an additional 5% increase in the water

consumption fee in years 2 and 3, additional revenue of \$32,000 and \$34,000 would be generated (same as in scenario #1).

- #3 – 8% increase in water consumption, 50% in debt service fee, and 50% increase in water service fee, would provide an estimated \$106,000 of revenue in the first year. With an additional 5% increase in the water consumption fee in years 2 and 3, additional revenue of \$33,000 and \$35,000 would be generated.
- #4 – 8% increase in water consumption, 50% of the cost of debt service per customer as the debt service fee and specific dollar increases in the water service fee, would provide an estimated \$139,000 of additional revenue in the first year. With an additional 5% increase in the water consumption fee in years 2 and 3, additional revenue of \$33,000 and \$35,000 would be generated (same as Scenario #3).

COURSES OF ACTION: Recommend to City Council – 1) a rate increase based on a combination of the above options, 2) provide guidance to City staff to fine tune the options and update the estimated calculations or 3) no change in rate structure.

FINANCIAL IMPACT: Varies, based on the course of action.

STAFF RECOMMENDATION: Recommend to City Council the rates as discussed under scenario #2 – 5% water consumption fee increase, 50% of the cost of debt service per customer as the debt service fee, 50% increase in the water service fee and no change in the EAA fee.

CITY OF SHAVANO PARK - WATER UTILITY RATE STRUCTURE ANALYSIS

SUMMARY OF REVENUE COMPONENTS:

<u>Water Consumption (5015)</u>			
	<u>Current Rate</u>	<u>5% Increase</u>	<u>8% Increase</u>
Estimated annual revenues at:	\$ 618,368	\$ 649,117	\$ 667,952
Change from Current Rate	N/A	\$ 30,749	\$ 49,584

<u>Debt Service Fee (5018)</u>			
	<u>Current Rate</u>	<u>@ 50% Increase</u>	<u>@ 50% of Debt Service</u>
Estimated annual revenues at:	\$ 52,685	\$ 79,027	\$ 92,939
Change from Current Rate	N/A	\$ 26,342	\$ 40,254

<u>Water Service Fee (5019)</u>			
	<u>Current Rate</u>	<u>@ 50% Increase</u>	<u>2/20/19 Option</u>
Estimated annual revenues at:	\$ 59,280	\$ 88,920	\$ 108,384
Change from Current Rate	N/A	\$ 29,640	\$ 49,104

<u>EAA Pass Thru Charge (5036)</u>	
	<u>Current Rate</u>
Estimated annual revenues at:	\$ 82,222

BASE CALCULATION - ALL CURRENT RATES	
Water Consumption	\$ 618,368
Debt Service	52,685
Water Service	59,280
EAA Pass Thru	82,222
	<u>\$ 812,555</u>

**SCENARIOS ARE CALCULATED WITH A 5% RATE INCREASE FOR
YEARS 2 AND 3 IN THE WATER CONSUMPTION CATEGORY ONLY**

SCENARIO #1	<u>YEAR #1</u>	<u>YEAR #2</u>	<u>YEAR #3</u>
Water Consumption - 5% increase	\$ 649,117	\$ 681,573	\$ 715,651
Debt Service - 50% increase	79,027	79,027	79,027
Water Service - 50% increase	88,920	88,920	88,920
EAA Pass Thru	82,222	82,222	82,222
	<u>\$ 899,286</u>	<u>\$ 931,742</u>	<u>\$ 965,820</u>
Increase from base calculation/prior year	<u>\$ 86,731</u>	<u>\$ 32,456</u>	<u>\$ 34,079</u>

SCENARIO #2	<u>YEAR #1</u>	<u>YEAR #2</u>	<u>YEAR #3</u>
Water Consumption - 5% increase	\$ 649,117	\$ 681,573	\$ 715,651
Debt Service - 50% of DS	92,939	92,939	92,939
Water Service - 50% increase	88,920	88,920	88,920
EAA Pass Thru	82,222	82,222	82,222
	<u>\$ 913,198</u>	<u>\$ 945,654</u>	<u>\$ 979,733</u>
Increase from base calculation/prior year	<u>\$ 100,643</u>	<u>\$ 32,456</u>	<u>\$ 34,079</u>

SCENARIO #3	<u>YEAR #1</u>	<u>YEAR #2</u>	<u>YEAR #3</u>
Water Consumption - 8% increase	\$ 667,952	\$ 701,350	\$ 736,417
Debt Service - 50% increase	79,027	79,027	79,027
Water Service - 50% increase	88,920	88,920	88,920
EAA Pass Thru	82,222	82,222	82,222
	<u>\$ 918,121</u>	<u>\$ 951,519</u>	<u>\$ 986,586</u>
Increase from base calculation/prior year	<u>\$ 105,566</u>	<u>\$ 33,398</u>	<u>\$ 35,067</u>

SCENARIO #4	<u>YEAR #1</u>	<u>YEAR #2</u>	<u>YEAR #3</u>
Water Consumption - 8% increase	\$ 667,952	\$ 701,350	\$ 736,417
Debt Service - 50% of DS	92,939	92,939	92,939
Water Service - 2/20/19	108,384	108,384	108,384
EAA Pass Thru	82,222	82,222	82,222
	<u>\$ 951,497</u>	<u>\$ 984,895</u>	<u>\$ 1,019,962</u>
Increase from base calculation/prior year	<u>\$ 138,942</u>	<u>\$ 33,398</u>	<u>\$ 35,067</u>

**CITY OF SHAVANO PARK - WATER UTILITY
HISTORICAL INFORMATION**

(Source: Audited financial statements for the referenced year and the FYE19 budget document)

	Budget FYE19	FYE18	FYE17	FYE16	FYE15	FYE14	FYE13	FYE12	FYE11	FYE10
Revenues:										
Water Consumption	\$ 621,347	\$ 661,864	\$ 658,287	\$ 585,411	\$ 602,875	\$ 638,815	\$ 764,052	\$ 736,913	\$ 951,468	\$ 588,365
Debt Service Fee	53,453	53,530	53,555	53,382	53,498	53,161	48,940	56,025	55,843	60,386
Water Service Fee	58,092	58,646	58,605	57,980	57,978	58,427	53,072	57,666	57,105	61,459
EAA Pass Thru Charge	83,319	89,139	87,732	79,312	80,569	88,470	90,439	91,014	61,896	40,507
Late Charges	6,000	6,010	7,962	8,357	7,385	9,136	7,199	8,734	8,424	3,808
Other revenues	72,088	108,902	79,896	66,297	49,737	108,651	50,964	44,353	68,129	36,056
Plus (less) transfer from capital/other	(28,780)	(32,209)	-	-	-	31,007	-	-	-	-
Total Revenues	<u>\$ 865,519</u>	<u>\$ 945,882</u>	<u>\$ 946,037</u>	<u>\$ 850,739</u>	<u>\$ 852,042</u>	<u>\$ 987,667</u>	<u>\$ 1,014,666</u>	<u>\$ 994,705</u>	<u>\$ 1,202,865</u>	<u>\$ 790,581</u>
Expenses:										
Water Department	\$ 606,358	\$ 574,885	\$ 884,091	\$ 682,195	\$ 566,071	\$ 649,691	\$ 590,432	\$ 581,073	\$ 766,328	\$ 509,811
Transfer to Capital Replacement	71,946	109,487	-	-	-	-	-	-	-	-
Depreciation	191,000	190,805	203,800	195,206	196,615	207,674	199,964	199,762	199,108	138,000
Debt Service/fiscal charges	82,142	83,637	174,608	117,397	119,575	122,398	142,803	167,725	160,819	124,355
Total Expenses	<u>\$ 951,446</u>	<u>\$ 958,814</u>	<u>\$ 1,262,499</u>	<u>\$ 994,798</u>	<u>\$ 882,261</u>	<u>\$ 979,763</u>	<u>\$ 933,199</u>	<u>\$ 948,560</u>	<u>\$ 1,126,255</u>	<u>\$ 772,166</u>
Net income(loss)	<u>\$ (85,927)</u>	<u>\$ (12,932)</u>	<u>\$ (316,462)</u>	<u>\$ (144,059)</u>	<u>\$ (30,219)</u>	<u>\$ 7,904</u>	<u>\$ 81,467</u>	<u>\$ 46,145</u>	<u>\$ 76,610</u>	<u>\$ 18,415</u>

Note: Depreciation is the rational allocation of a fixed asset's purchase price over the estimated useful life. While it is an expense, it is not a cash out flow.

Comments on operations:

FYE19: Includes an estimate for depreciation for comparison purposes. Depreciation is not budgeted

FYE17: Expenses include \$183,000 for Well #9 Trinity, \$79,000 transfer to the General Fund, \$76,000 of bond issue costs for the refinancing

FYE16: Expenses include \$40,000 for Well #9 Trinity and \$57,000 on Shavano Drive Pump Station

FYE14: Expenses include \$127,000 in Water System Maintenance to pull and replace pump at Well #5 (March) and pull and evaluate motors at Well #6 and #9 due to storm damage - Well #9 pump and motor were replaced.

FYE11: Expenses include \$147,000 to paint the Huebner Storage Tank and \$79,000 water lease payment

Information regarding fixed asset acquisitions and debt service principal payments follows on Page 4. Those items are not expenses but are cash out flows.

**CITY OF SHAVANO PARK - WATER UTILITY
HISTORICAL INFORMATION**

Other financial considerations:	Budget										
	<u>FYE19</u>	<u>FYE18</u>	<u>FYE17</u>	<u>FYE16</u>	<u>FYE15</u>	<u>FYE14</u>	<u>FYE13</u>	<u>FYE12</u>	<u>FYE11</u>	<u>FYE10</u>	
Fixed asset purchases	\$ 28,780	\$ 138,963	\$ 316,938	\$ 192,258	\$ 91,363	\$ 58,629	\$ 363,007	\$ 128,094	\$ 659,985	\$ 1,673,520	
Principal payments (not included in above debt service)	\$ 105,073	\$ 101,990	\$ 120,962	\$ 83,270	\$ 81,214	\$ 81,215	\$ 74,158	\$ 34,378	\$ 42,498	\$ 57,384	

Significant fixed asset purchases:

FYE18: Well #5 and #6 rebuild \$68,000, purchased water rights \$66,000
 FYE17: Ditch Witch \$30,000, SCADA upgrade \$253,000
 FYE16: Elevated Storage tank painting \$178,000
 FYE15: PW/Water office building \$91,000
 FYE14: Ford F250 truck \$25,000
 FYE13: Trinity Well \$281,000, Water System Improvements \$66,900 (Huebner VFD, Pump/Motor rebuild)
 FYE12: Pump station (unspecified) \$21,600, Trinity Well \$86,000
 FYE11: Trinity Well \$652,000
 FYE10: Trinity Well \$1,662,000

	Prelim										
	<u>02/28/2019</u>	<u>09/30/2018</u>	<u>09/30/2017</u>	<u>09/30/2016</u>	<u>09/30/2015</u>	<u>09/30/2014</u>	<u>09/30/2013</u>	<u>09/30/2012</u>	<u>09/30/2011</u>	<u>09/30/2010</u>	
Cash and Investments:											
Designated - Capital	\$ 501,383	\$ 520,769	\$ 448,330	\$ 380,121	\$ 117,872	N/A	N/A	N/A	N/A	N/A	
Undesignated	205,888	395,230	501,556	953,655	1,339,121	1,546,969	1,631,691	1,515,678	1,499,917	2,160,816	
	<u>\$ 707,271</u>	<u>\$ 915,999</u>	<u>\$ 949,886</u>	<u>\$ 1,333,776</u>	<u>\$ 1,456,993</u>	<u>\$ 1,546,969</u>	<u>\$ 1,631,691</u>	<u>\$ 1,515,678</u>	<u>\$ 1,499,917</u>	<u>\$ 2,160,816</u>	
Change from prior period	<u>\$ (208,728)</u>	<u>\$ (33,887)</u>	<u>\$ (383,890)</u>	<u>\$ (123,217)</u>	<u>\$ (89,976)</u>	<u>\$ (84,722)</u>	<u>\$ 116,013</u>	<u>\$ 15,761</u>	<u>\$ (660,899)</u>	N/A	

*** Debt service of \$148,300 paid in February 2019

**CITY OF SHAVANO PARK - WATER UTILITY
SAMPLE MONTHLY BILL CALCULATIONS - VARIOUS OPTIONS**

As most of the Utility's customers have either 5/8" or 3/4" meters, the sample calculations will be based on those sizes.

The average consumption for 5/8" meter for calendar year 2018 was 10,500 gallons/month

The average consumption for 3/4" meter for calendar year 2018 was 17,000 gallons/month

@ CURRENT RATES

5/8" meter			WATER	DEBT	WTR SVC	EAA	TOTAL
Based on	5,000	gallon consumption	\$ 15.35	\$ 6.40	\$ 5.10	\$ 2.50	\$ 29.35
Based on	10,500	gallon consumption	\$ 34.05	\$ 6.40	\$ 5.10	\$ 5.25	\$ 50.80
Based on	58,000	gallon consumption	\$ 213.59	\$ 6.40	\$ 5.10	\$ 29.00	\$ 254.09

@ SCENARIO 1 RATES

5/8" meter			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.10	\$ 9.60	\$ 7.65	\$ 2.50	\$ 35.85	\$ 6.50
Based on	10,500	gallon consumption	\$ 35.74	\$ 9.60	\$ 7.65	\$ 5.25	\$ 58.24	\$ 7.44
Based on	58,000	gallon consumption	\$ 224.23	\$ 9.60	\$ 7.65	\$ 29.00	\$ 270.48	\$ 16.39

@ SCENARIO 2 RATES

5/8" meter			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.10	\$ 11.29	\$ 7.65	\$ 2.50	\$ 37.54	\$ 8.19
Based on	10,500	gallon consumption	\$ 35.74	\$ 11.29	\$ 7.65	\$ 5.25	\$ 59.93	\$ 9.13
Based on	58,000	gallon consumption	\$ 224.23	\$ 11.29	\$ 7.65	\$ 29.00	\$ 272.17	\$ 18.08

@ SCENARIO 3 RATES

5/8" meter			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.60	\$ 9.60	\$ 7.65	\$ 2.50	\$ 36.35	\$ 7.00
Based on	10,500	gallon consumption	\$ 36.79	\$ 9.60	\$ 7.65	\$ 5.25	\$ 59.29	\$ 8.49
Based on	58,000	gallon consumption	\$ 230.75	\$ 9.60	\$ 7.65	\$ 29.00	\$ 277.00	\$ 22.91

@ SCENARIO 4 RATES

5/8" meter			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.60	\$ 11.29	\$ 10.10	\$ 2.50	\$ 40.49	\$ 11.14
Based on	10,500	gallon consumption	\$ 36.79	\$ 11.29	\$ 10.10	\$ 5.25	\$ 63.43	\$ 12.63
Based on	58,000	gallon consumption	\$ 230.75	\$ 11.29	\$ 10.10	\$ 29.00	\$ 281.14	\$ 27.05

@ CURRENT RATES**3/4" meter**

			WATER	DEBT	WTR SVC	EAA	TOTAL
Based on	5,000	gallon consumption	\$ 15.35	\$ 6.40	\$ 7.34	\$ 2.50	\$ 31.59
Based on	17,000	gallon consumption	\$ 56.15	\$ 6.40	\$ 7.34	\$ 8.50	\$ 78.39
Based on	58,000	gallon consumption	\$ 213.59	\$ 6.40	\$ 7.34	\$ 29.00	\$ 256.33

@ SCENARIO 1 RATES**3/4" meter**

			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.10	\$ 9.60	\$ 11.01	\$ 2.50	\$ 39.21	\$ 7.62
Based on	17,000	gallon consumption	\$ 58.94	\$ 9.60	\$ 11.01	\$ 8.50	\$ 88.05	\$ 9.66
Based on	58,000	gallon consumption	\$ 224.23	\$ 9.60	\$ 11.01	\$ 29.00	\$ 273.84	\$ 17.51

@ SCENARIO 2 RATES**3/4" meter**

			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.10	\$ 11.29	\$ 11.01	\$ 2.50	\$ 40.90	\$ 9.31
Based on	17,000	gallon consumption	\$ 58.94	\$ 11.29	\$ 11.01	\$ 8.50	\$ 89.74	\$ 11.35
Based on	58,000	gallon consumption	\$ 224.23	\$ 11.29	\$ 11.01	\$ 29.00	\$ 275.53	\$ 19.20

@ SCENARIO 3 RATES**3/4" meter**

			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.60	\$ 9.60	\$ 11.01	\$ 2.50	\$ 39.71	\$ 8.12
Based on	17,000	gallon consumption	\$ 60.64	\$ 9.60	\$ 11.01	\$ 8.50	\$ 89.75	\$ 11.36
Based on	58,000	gallon consumption	\$ 230.75	\$ 9.60	\$ 11.01	\$ 29.00	\$ 280.36	\$ 24.03

@ SCENARIO 4 RATES**3/4" meter**

			WATER	DEBT	WTR SVC	EAA	TOTAL	INCREASE
Based on	5,000	gallon consumption	\$ 16.60	\$ 11.29	\$ 13.34	\$ 2.50	\$ 43.73	\$ 12.14
Based on	17,000	gallon consumption	\$ 60.64	\$ 11.29	\$ 13.34	\$ 8.50	\$ 93.77	\$ 15.38
Based on	58,000	gallon consumption	\$ 230.75	\$ 11.29	\$ 13.34	\$ 29.00	\$ 284.38	\$ 28.05

SUPPORTING DOCUMENTATION
CITY OF SHAVANO PARK - WATER UTILITY
CALCULATION OF WATER CONSUMPTION INCREASE

The Water Utility uses a graduated consumption billing rate, charging more to higher users.

<u>TIERS:</u>	<u>Gallons:</u>		Per 1,000 gallons			
			<u>Current</u> <u>Rate</u>	<u>5%</u> <u>Increase</u>	<u>8%</u> <u>Increase</u>	
1	-	to 5,000	\$ 3.07	\$ 3.22	\$ 3.32	
2	5,001	to 30,000	\$ 3.40	\$ 3.57	\$ 3.67	
3	30,001	to 50,000	\$ 3.83	\$ 4.02	\$ 4.14	
4	50,001	to 70,000	\$ 4.58	\$ 4.81	\$ 4.95	
5	70,001	to 100,000	\$ 6.29	\$ 6.60	\$ 6.79	
6	100,001	and above	\$ 11.94	\$ 12.54	\$ 12.90	

<u>TIERS:</u>	<u>Total</u> <u>Gallons</u> <u>FY14-FY18</u>	<u>Average</u> <u>Gallons</u> <u>Per Year</u>	Revenue @		
			<u>Current</u> <u>Rate</u>	<u>5%</u> <u>Increase</u>	<u>8%</u> <u>Increase</u>
1	176,578,000	35,315,600	\$ 108,419	\$ 113,716	\$ 117,248
2	416,124,500	83,224,900	282,965	297,113	305,435
3	125,465,000	25,093,000	96,106	100,874	103,885
4	55,593,000	11,118,600	50,923	53,480	55,037
5	31,659,000	6,331,800	39,827	41,790	42,993
6	16,804,000	3,360,800	40,128	42,144	43,354
		164,444,700	<u>\$ 618,368</u>	<u>\$ 649,117</u>	<u>\$ 667,952</u>
Change in revenue from current rate			N/A	\$ 30,749	\$ 49,584

*** Per Rate Tier Analysis Report, 10/1/2013 to 9/30/2018

SUPPORTING DOCUMENTATION
CITY OF SHAVANO PARK - WATER UTILITY
CALCULATION OF DEBT SERVICE CHARGE INCREASE

The Water Utility charges a flat fee for the debt service.
Each customer is charged the fee, not the meter. So a customer
may have multiple meters, but is only charged one debt service fee

OPTION #1:

Per the amortization schedules provided by Frost Bank, the annual debt service for FY19 to FY23 is as follows:

FY19	\$	186,344	
FY20		187,833	
FY21		186,023	
FY22		185,462	
FY23		183,832	
5 year average	\$	185,899	using for calculation purposes
Utility customers		686	
Monthly debt service per customer:	\$	<u>22.58</u>	
50% of actual monthly debt service	\$	<u>11.29</u>	

OPTION #2

Current monthly fee:	\$	<u>6.40</u>
50% increase in current monthly fee:	\$	<u>9.60</u>

Revenue Calculations:

			<u># of Customers</u>	<u>Annual Revenue</u>	<u>Change from Current Rate</u>
At current rate:	\$	6.40	686	\$ 52,685	N/A
At 50% increase of current monthly rate	\$	9.60	686	\$ 79,027	\$ 26,342
At 50% of average debt	\$	11.29	686	\$ 92,939	\$ 40,254

SUPPORTING DOCUMENTATION
CITY OF SHAVANO PARK - WATER UTILITY
CALCULATION OF WATER SERVICE CHARGE INCREASE

The Water Utility charges a fixed fee per month based on meter size.

The current water service fees are:

Meter size:	<u>5/8"</u>	<u>3/4"</u>	<u>1"</u>	<u>1.5"</u>	<u>2"</u>	<u>6"</u>
Monthly fee:	\$ 5.10	\$ 7.34	\$ 13.06	\$ 29.38	\$ 52.22	\$ 470.02
50% increase in current fee	\$ 7.65	\$ 11.01	\$ 19.59	\$ 44.07	\$ 78.33	\$ 705.03
Option from 2/20/19 meeting	\$ 10.10	\$ 13.34	\$ 23.06	\$ 44.38	\$ 72.22	
SAWS Rates	\$ 12.82	\$ 16.97	\$ 32.79	\$ 59.61	\$ 91.75	

Revenue Calculations:		***			
<u>Size</u>	<u>Count</u>	<u>Current Rate</u>	<u>+ 50% of Current</u>	<u>2/20/19 Option</u>	<u>SAWS Rates</u>
5/8"	275	\$ 16,830	\$ 25,245	\$ 33,330	\$ 42,306
3/4"	397	34,968	52,452	63,552	80,845
1"	17	2,664	3,996	4,704	6,689
1.5"	3	1,058	1,587	1,598	2,146
2"	6	<u>3,760</u>	<u>5,640</u>	<u>5,200</u>	<u>6,606</u>
	698	<u>\$ 59,280</u>	<u>\$ 88,920</u>	<u>\$ 108,384</u>	<u>\$ 138,592</u>
Change in revenue from current rate:		<u>N/A</u>	<u>\$ 29,640</u>	<u>\$ 49,104</u>	<u>\$ 79,312</u>

*** Informational only

(Used the number of meters from the Monthly Billing Report ran 2/6/2019)

SUPPORTING DOCUMENTATION

CITY OF SHAVANO PARK - WATER UTILITY CALCULATION OF EAA FEES - NO INCREASE

The Water Utility charges \$0.50 per 1,000 gallons consumed for the EAA fee.
There was no discussion in the notes changing this fee.

Average annual consumption - gallons (based on 5 prior years, see Water Service Consumption page)	<u>164,444,700</u>
EAA fee - \$0.50/1,000 gallons	<u>\$ 82,222</u>

Water Advisory Committee Agenda Form

Meeting Date: March 11, 2019

Agenda item: 6.b

Prepared by: Bill Hill

Reviewed by: Bill Hill

AGENDA ITEM DESCRIPTION: Discussion – Irrigation System Backflow Prevention Requirements

X

- Attachments for Reference:**
- 1) TCEQ Review Comments
 - 2) City Attorney Review Comments
 - 3) RG-478 Establishing and Managing an Effective Cross-Connection Control Program
 - 4) Texas Administrative Code, Title 30 Excerpts
 - 285.2 Definitions (OSSF)
 - 290.38 Definitions (Health Hazard)
 - 290.44 (Rules and Regs for Public Water Systems)
 - 344.50-52 (Backflow Prevention)
 - 5) Shavano Park Ordinance Sec. 6-165 - Water Service

BACKGROUND / HISTORY: In 2009, the Texas Administrative Code (TAC) was amended which appears to require residential (and commercial) properties with OSSF (Septic) and an irrigation system to install an improved type of backflow prevention device on the sprinkler system to prevent water from backing up into the water supply (water mains). The new device is called a “reduced pressure (RP) backflow prevention assembly” and these are installed above ground about 18 inches and cost considerably more than the typical device. What the previous common practice was is to have what is called a “double check” backflow device installed on the irrigation system line. These are typically below ground and fairly simple to install / replace. Residents who are serviced by a municipal provided sewer system (e.g. San Antonio / Shavano Creek / Bentley Manor) are only required to have the old below ground “double check” backflow device. Many of our residential properties that Shavano Park supplies water and whom also have an irrigation system (old Shavano Park) have the old backflow prevention device.

Shavano Park passed an ordinance in 2007 that required double check backflow prevention devices (Attachment 5). Shavano Park will need to initiate an update to our ordinances to conform to the TAC. First we must clearly understand the requirements. As we have begun to discuss requirements (where our water system provides water to residential properties with a OSSF (septic)), there is some question whether this new RP system is actually required and what are annual testing requirements according to the TAC.

DISCUSSION:

There are two questions that I have researched to focus on the significant requirements.

1) What is your (TCEQ / City Attorney) legal interpretation of whether 344.51 specifically requires a reduced pressure principal backflow prevention assembly (or air gap, which is not a common practice in residential properties) be installed on an irrigation system installed on a property that is served by an on-site sewage facility (OSSF) or septic. NOTE: I think the answer is found in TAC 344.51 (d)(2), which I have copied verbatim below in the description concerning attachment 2.

2) Testing requirements. TAC 344.50(c) states “Backflow prevention devices used in applications designated as **health hazards** must be tested upon installation and **annually** thereafter.” If this applies to residential properties with OSSF, this is a game changer for the residents and the water providers. In the brief discussions I have had with others in TCEQ, their position is that OSSF is a health hazard and therefore all backflow prevention devices **must be tested annually**. TAC 290.38(35) defines: “Health hazard -- A cross-connection, potential contamination hazard, or other situation involving any substance that can cause death, illness, spread of disease, or has a high probability of causing such effects if introduced into the potable drinking water supply.” Nowhere in the Code does it specifically identify an OSSF as a health hazard. I’m told that fecal contamination is considered a health hazard; however, some citizens again are in resistance and say the TAC does not specifically require backflow prevention devices on property with OSSF to be tested annually **and they are correct**. TAC 290 Appendix F: Assessment of Hazards and Selection of Assemblies provides a list of “many common hazards”. It lists “Sewer Treatment Plants”, but not OSSF. I would say that an OSSF (facility) is one of the most common ways to treat sewage and there are 1000’s of these across the state... and not listing in this table seems like an indicator that it is not a “Health Hazard,” even though the table states: “The following table lists many common hazards. It is not an all-inclusive list of hazards which may be found connected to public water systems”. TCEQ reps have also told me that is their interpretation that an OSSF is a health hazard as defined by TCEQ because fecal contamination in drinking water could be a serious health hazard (and therefore requires annual testing). Frankly, this TCEQ position seems weak and too vague.

Response from TCEQ (Attachment 1): **Response pending**

Response from City Attorney (Attachment 2): Assistant City Attorney Cynthia Trevino provides response to both questions. Findings are summarized by: 1) Yes TAC 344.51 specifically requires a reduced pressure principal backflow prevention assembly to be installed on an irrigation system on property served by an OSSF (Septic). 2) Yes, TCEQ has formally classified an irrigation system located on property with an OSSF as a health hazard and therefore requires annual inspection of the backflow prevention device (RP as well as double check).

Attachment 3 (RG-478 Establishing and Managing Effective Cross-Connection Control Program). In this document from TCEQ, it provides interpretations of regulations in the Texas Administrative Code and specifically that the existence of the OSSF elevates the classification of the irrigation system to a health hazard, which triggers the application of annual inspection requirements.

Attachment 4 - Texas Administrative Code, Title 30 (Excerpts)

Chapter 285.2(45) - Defines On-site sewer facility

Chapter 290.38(35) - Defines Health Hazard

290.44 (effective 2009)

- Properties where actual or potential contamination hazard exists required protection of an air gap or backflow prevention assembly as determined in 290.47(F)
- Backflow prevention devices installed to protect against health hazard must be tested at least annually
- Signed test results must be submitted to public water supplier for recordkeeping

290 App F

- Lists many common hazards. It is not an all-inclusive list of hazards... Sewer Treatment Plants (not OSSF) are considered a Health Hazard requiring either an Air Gap or a RPBA (reduced-pressure principal backflow prevention assembly)... however they don't list OSSF.

344.50 / 344.51 (effective 2009)

- "344.51 (d) If an irrigation system is designed or installed on a property that is served by an on-site sewage facility, as defined in Chapter 285 of this title (relating to On-Site Sewage Facilities), then:
 - (2) any connections using a private or public potable water source must be connected to the water source through a reduced pressure principal backflow prevention assembly as defined in 344.50 of this title (relating to Backflow Prevention Methods); and
- If conditions that present a health hazard, one of the following methods must be use to prevent backflow... (2) Reduced pressure principal backflow assemblies
- Backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter

- If an irrigation system is installed on a property that is served by an on-site sewage facility, then... (2) must be connected to a water source through a reduced pressure principal backflow prevention assembly

Staff will begin drafting an amendment to our Ordinances.

FINANCIAL IMPACT: TBD'ed

STAFF RECOMMENDATION: N/A at this time.

DENTON NAVARRO ROCHA BERNAL & ZECH PC
ATTORNEY/CLIENT WORK PRODUCT
NOT A PUBLIC RECORD
MEMORANDUM TO CLIENT

TO: BILL HILL, CITY MANAGER
CITY OF SHAVANO PARK

FROM: CYNTHIA TREVINO, ASSISTANT CITY ATTORNEY *CT*

DATE: MARCH 7, 2019

RE: BACKFLOW PREVENTION ASSEMBLY WHERE AN ON-SITE SEWAGE FACILITY EXISTS

Background: The City is conducting a review of its backflow prevention program and related ordinance provisions. An interpretation of relevant Texas Administrative Code Provisions is needed in order for the City to determine the next steps in its review process.

Summary: The specific provisions requiring reduced pressure principle backflow prevention assemblies ("RP") for irrigation systems on properties with OSSF apply and control over the general provisions covering backflow prevention methods found in Title 30 chapter 344 of the Texas Administrative Code. Further, although 30 Tex. Admin. Code § 290.38(35) does not specifically define an OSSF as a health hazard, the TCEQ has designated an OSSF as a health hazard requiring RP backflow assemblies with the requisite annual testing. Therefore, as TCEQ is the enforcement agency over public water systems and, as such, is entitled to judicial deference towards its interpretations of its rules, we recommend that an RP assembly be required in these situations, as well as annual testing of the same.

Question: Does TAC 344.51 specifically require a reduced pressure principal backflow prevention assembly be installed on an irrigation system installed on a property that is served by an on-site sewage facility (septic)?

Response: Title 30 chapter 344 of the Texas Administrative Code regulates the installation of backflow prevention and cross-control connections relating to irrigation systems. Any irrigation system that is connected to a public or private potable water supply must be connected through a commission-approved backflow prevention method. 30 Tex. Admin. Code § 344.50(a). This section also provides that if conditions that present a health hazard exist, then one of the approved backflow prevention methods must be used, one method of which includes a reduced pressure principle assembly. 30 Tex. Admin. Code § 344.50(b).

The chapter then establishes a specific condition for an irrigation system installed on property served by an on-site sewage facility. (See 30 Tex. Admin. Code § 344.51(d)). This provision

explicitly states that “if an irrigation system is designed or installed on a property that is served by an on-site sewage facility (“OSSF”), as defined in Chapter 285 of this title (relating to OSSF), then any connections using a private or public potable water source must be connected to the water source through a reduced pressure principle backflow prevention assembly (“RP”) as defined in § 344.50 of this title (relating to Backflow Prevention Methods).

When there are two statutes that overlap, as is the case for your inquiry, a specific statute controls over the general provision. *See* 67 Tex. Jur. 3d Statutes § 122. Based on the rule of statutory construction it is our interpretation that the specific provisions requiring reduced pressure principle backflow prevention assemblies for irrigation systems on properties with OSSF applies and controls over the general provisions covering backflow prevention methods.

Questions: Does the annual testing required by TAC 344.50(c) apply to properties with on-site septic systems? Is a septic tank identified as a health hazard?

Response: 30 Tex. Admin. Code § 344.50(c) states that “backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter. This requirement conforms to the general testing requirements provided by 30 Tex. Admin. Code § 290.44(h)(4). Additionally, 30 Tex. Admin. Code § 290.38(35) defines a “health hazard” as “a cross-connection, potential contamination hazard, or other situation involving any substance that can cause death, illness, spread of disease, or has a high probability of causing such effects if introduced into the potable drinking water supply.” While we note that 30 Tex. Admin. Code 290 Appendix F lists many health hazards, it does not include on-site sewage disposal systems (OSSF). However, this Appendix also states that the list “is not an all-inclusive list of the hazards which may be found connected to public water systems,” thereby establishing an avenue for additional agency discretion to determine other health hazards.

TCEQ is the administering agency for public water systems and it is authorized to make reasonable interpretations of the regulations established in the Texas Administrative Code. Accordingly, in TCEQ publication RG-478, the cross-connection rules publication, TCEQ states that “the existence of the OSSF elevates the classification of the irrigation system to a health hazard requiring the installation of an RP [reduced pressure backflow assembly].” TCEQ’s designation of an on-site OSSF as a health hazard triggers the application of the annual inspection requirement. A copy of RG-478 is attached and the information is located on pages 15 – 16.



Revised August 2016
RG-478

Establishing and Managing an Effective Cross-Connection Control Program

printed on
recycled paper

Water Supply Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Establishing and Managing an Effective Cross-Connection Control Program

RG-478
Revised August 2016

Prepared by
Water Supply Division, MC 154
PO Box 13087
Austin TX 78711-3087

www.tceq.texas.gov/publications/rg/rg-478.html



Bryan W. Shaw, Ph.D., P.E., Chairman
Toby Baker, Commissioner
Jon Niermann, Commissioner

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www.tceq.texas.gov/publications

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How is our customer service? www.tceq.texas.gov/customersurvey

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Introduction

Who Should Read This Guide?

This guide is intended to help public water system (PWS) managers, operators, and program administrators implement their cross-connection control programs. The audience for this guide is Texas PWSs—for example, a water district, a water-supply corporation, or a city-owned or investor-owned PWS.

Members of the general public—customers of water systems—will also find answers in this guide to many questions they may have about cross-connection control programs. For more information, PWSs and their customers can also contact the TCEQ at 512-239-0028 to request the brochure *A Consumer's Guide to Backflow Prevention in Texas* (TCEQ publication GI-411). The brochure is also downloadable from the TCEQ's website at:

[<www.tceq.texas.gov/publications/gi/gi-411.html>](http://www.tceq.texas.gov/publications/gi/gi-411.html)

In the text of this document, “you” refers to the PWS and its staff members; “program” is short for ‘cross-connection control program’; and “we” refers to the TCEQ or its staff.

This publication is for general guidance only and is not a substitute for the rules or regulations governing cross-connection control and backflow prevention.

Texas Rules

Title 30 of the Texas Administrative Code (30 TAC), Chapter 290, prohibits PWSs from connecting to an actual or potential contamination hazard without first protecting the potable-water supply. The TCEQ rules require PWSs to:

- adopt a plumbing ordinance, regulations, or service agreements
- require customer-service inspections
- require backflow protection using appropriate backflow prevention assemblies
- require those assemblies to be tested to ensure that they are working correctly

This document refers to the Texas rules in the applicable sections throughout. Implementing these rules constitutes a cross-connection control program.

TCEQ rules place the responsibility for recognizing and evaluating hazards within the PWS's distribution system on the PWS. When a hazard is identified, you must ensure that your consumers are protected from contamination by that hazard. The PWS may terminate water service to any connection where an unprotected health hazard is found and only restore service when the health hazard no longer exists or after it has been properly isolated using a backflow prevention assembly.

Any hazard must be isolated from the drinking-water supply regardless of when the hazard was first created or the site was built. Because the effects of a backflow event can be so significant, there are no grandfather clauses that apply to cross-connection control and backflow prevention in the TCEQ's regulations on backflow and siphonage. However, the landscape-irrigation regulations do contain some provisions for existing irrigation systems. This is covered in section 8 of this document.

A backflow incident qualifies as an accident that has a negative impact on the delivery of safe and adequate drinking water and must be reported to the TCEQ [30 TAC 290.46(w)(5)]. The TCEQ maintains a 24-hour toll-free number for reporting backflow

incidents and other emergencies: 888-777-3186. Additionally, you should submit a detailed summary of any backflow incident to:

Coordinator, Cross-Connection Control Program
Technical Review and Oversight Team, MC 159
Texas Commission on Environmental Quality
PO Box 13087
Austin TX 78711-3087

1. Plumbing Ordinance, Regulations, or Service Agreements [30 TAC 290.46(i)]

Every PWS is required to adopt either:

- a plumbing ordinance,
- plumbing regulations, or
- service agreements.

These give the local public water supplier the authority to implement a cross-connection control program. Whichever is adopted, it must have provisions for proper enforcement in order to prohibit cross-connections and other unacceptable plumbing practices.

PWSs serve a wide variety of customers throughout Texas. The potential cross-connections found in a rural area can be very different from those found in an urban setting. Each PWS should carefully consider the types of hazards that may be present in its distribution system before adopting a plumbing ordinance, regulations, or service agreement. This will allow the PWS to tailor the adopted rules to better protect the potable-water supply against a category of specific potential hazards in the PWS's local area. *Important:* the adopted ordinance, regulations, or service agreements may be more stringent than the TCEQ regulations, but cannot be less stringent.

For example, if you supply water to residential customers who have irrigation systems and also have animals on their lot, run a business from their house, or have an auxiliary water supply—which increases the contamination hazard—you may require more rigorous testing of the backflow preventers for those customers. While TCEQ rules address the hazards posed to the potable water supply, specific requirements adopted in the local ordinance, regulations, or service agreement will strengthen your enforcement of these requirements—increasing awareness of the rules and reducing the number of questions.

Note that an investor-owned utility has only limited authority to adopt more stringent requirements than the TCEQ rules [30 TAC 291.93(5)].

Plumbing Ordinance or Regulations

An ordinance is a formal enactment by a local government, adopted by the governing body of that government (for example, a city council). Typically, a plumbing ordinance will contain the requirements for cross-connection control and backflow prevention that comply with state regulations and also meet the local, specific needs for protecting the potable-water distribution system. A sample plumbing ordinance appears in Appendix H of this guide.

Depending on the local municipality, plumbing regulations that contain requirements for cross-connection control and backflow prevention could be contained within a

specifically to help PWS personnel with this task is available for purchase. An online search for this software will give you an idea of the options available. An alternative is for you to develop your own electronic tracking system—for example, using a spreadsheet program.

8. Landscape Irrigation

Rules for landscape irrigation in 30 TAC 344 may have an impact on a PWS's cross-connection control program because they have requirements for backflow prevention as well as detailed installation requirements for backflow prevention assemblies. Typically, irrigation systems are a direct cross-connection to the potable-water supply, which requires backflow prevention. Some typical hazards posed by an irrigation system are:

- Organisms (parasites, insect larvae, pathogens) living in the water of the irrigation system.
- Exposure of the sprinkler heads to fertilizers, herbicides, or pesticides in the yard.
- Exposure of the sprinkler heads to fecal material from animals living on the site (dogs, cats, rodents, farm animals).
- Direct connection of chemical additives to the irrigation system.
- Connection of alternative water sources (creeks, rainwater harvesting systems, lakes, private wells, stock tanks, etc.).

Backflow will introduce these elements into the potable-water supply at the site and possibly into the water main. Backflow is especially problematic when pathogenic organisms are introduced into the potable-water supply and may propagate to produce waterborne illness.

The backflow requirements for irrigation systems make it logical that the landscape-irrigation rules and the rules on cross-connection control and backflow prevention are interrelated. PWSs that have not considered the impact of these rules may need to take action to learn about them and implement additional protective measures within their cross-connection control program.

To assist public water suppliers, the TCEQ has published *Landscape Irrigator's Rule Compilation* (RG-470), available online at <www.tceq.texas.gov/publications/rg/rg-470.html>.

You can telephone the TCEQ Landscape Irrigation Program at 512-239-5296 or visit its Web page at <www.tceq.texas.gov/goto/lawn>

In order to conserve water, many irrigation systems are supplied with reclaimed water. RG-470 addresses the use of reclaimed water for irrigation systems. It describes requirements for backflow prevention, color coding, and necessary signs. "Reclaimed water" is defined in 30 TAC 210. It refers to wastewater that is discharged under a TCEQ "210 Permit" for beneficial use. If the beneficial use involves human contact, the water is considered Type 1 reclaimed water; if not, the water is called Type 2 reclaimed water.

Many irrigation systems are installed on sites that have an on-site sewage facility (such as a septic tank). The existence of the OSSF elevates the classification of the irrigation system to a health hazard requiring the installation of an RP. Before 2009, a Double-Check Valve Assembly was allowed on irrigation systems installed on sites that also had an OSSF. As a result, there are currently installed irrigation systems that do not have the correct backflow prevention assembly. To address this, the current version of the landscape-irrigation rules states:

If an irrigation system is connected to a potable water supply and requires major maintenance, alteration, repair, or service, the system must be connected to the potable water supply through an approved, properly installed backflow prevention method as defined in this title before any major maintenance, alteration, repair, or service is performed. [30 TAC 344.52(a)]

Historically, this regulation was taken to mean that systems that were installed before 2009 were essentially grandfathered until they required “major maintenance, alteration, repair, or service.” When the backflow preventer can no longer be repaired in line and must be replaced, it must be upgraded to the required RP.

Since 2009, those installing irrigation systems on sites that also have an OSSF must be aware of the change in the required backflow prevention and install the RP.

Licensed irrigators may install backflow prevention assemblies on irrigation systems. The irrigator must use the correct type of assembly taking into account:

- the hydraulic conditions (back pressure)
- hazard analysis
- testing requirements
- installation requirements

Though a licensed irrigator may install the device, it must be tested by a licensed BPAT upon installation.

9. Education and Training

PWS staff education is important to every aspect of a program. Training, a specific kind of education, is even more critical. Training gives an individual the critical information needed to carry out specific tasks. Specific personnel will require specific training, but backflow, what a cross-connection is, and how contaminated water from a customer’s premises can get into the potable water supply, are important concepts **all** personnel need to comprehend. Contamination involving backflow is usually discovered through water quality complaints, and understanding the details of cross-connection control measures is a necessity. Following are two examples emphasizing the importance of trained water-system staff:

Example 1

Personnel at a particular PWS receive basic training on some concepts of cross-connection control. The meter readers, repair personnel, and anyone having a field job are requested to inform the program coordinator of any potential hazards they notice—such as auxiliary water sources or extensive plumbing work.

A meter reader observes that large pieces of equipment are being brought into a facility. The coordinator makes inquiries and determines that the facility has totally changed the type of work it conducts, and will now be using water using equipment that has contaminants under pressure for various processes. It will now need an RP installed at the meter. Without the knowledge and actions of the field personnel, the potable-water supply would have been vulnerable to the contamination hazards at that facility.

Example 2

A water-quality inspector receives a complaint of tiny bubbles in the water at a restaurant. Upon investigating, the inspector finds what appears to be air in the water and tells the restaurant personnel to flush their internal piping system and the PWS will open the fire hydrants to flush any air out of the water main. This doesn’t solve the problem. Many times what appears to be air in the water at restaurants is actually carbon

[<<Prev Rule](#)[Next Rule>>](#)

Texas Administrative Code

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 285</u>	ON-SITE SEWAGE FACILITIES
<u>SUBCHAPTER A</u>	GENERAL PROVISIONS
<u>RULE §285.2</u>	Definitions

The following words and terms in this section are in addition to the definitions in Chapter 3 and Chapter 30 of this title (relating to Definitions and Occupational Licenses and Registrations). The words and terms in this section, when used in this chapter, have the following meanings.

- (1) Aerobic digestion--The bacterial decomposition and stabilization of sewage in the presence of free oxygen.
- (2) Alter--To change an on-site sewage facility resulting in:
 - (A) an increase in the volume of permitted flow;
 - (B) a change in the nature of permitted influent;
 - (C) a change from the planning materials approved by the permitting authority;
 - (D) a change in construction; or
 - (E) an increase, lengthening, or expansion of the treatment or disposal system.
- (3) Anaerobic digestion--The bacterial decomposition and stabilization of sewage in the absence of free oxygen.
- (4) Apprentice--An individual who has been properly registered with the executive director according to Chapter 30 of this title (relating to Occupational Licenses and Registrations), and is undertaking a training program under the direct supervision of a licensed installer.
- (5) Authorization to construct--Written permission from the permitting authority to construct an on-site sewage facility showing the date the permission was granted. The authorization to construct is the first part of the permit.
- (6) Authorized agent--A local governmental entity that has been delegated the authority by the executive director to implement and enforce the rules adopted under Texas Health and Safety Code, Chapter 366.
- (7) Borehole--A drilled hole four feet or greater in depth and one to three feet in diameter.
- (8) Certified professional soil scientist--An individual who has met the certification requirements of the American Society of Agronomy to engage in the practice of soil science.

285.2 Definitions

(42) Notice of approval--Written permission from the permitting authority to operate an on-site sewage facility. The notice of approval is the final part of the permit.

(43) Nuisance--

(A) sewage, human excreta, or other organic waste discharged or exposed in a manner that makes it a potential instrument or medium in the transmission of disease to or between persons;

(B) an overflow from a septic tank or similar device, including surface discharge from or groundwater contamination by a component of an on-site sewage facility; or

(C) a blatant discharge from an OSSF.

(44) On-site sewage disposal system--One or more systems that:

(A) do not treat or dispose of more than 5,000 gallons of sewage each day; and

(B) are used only for disposal of sewage produced on a site where any part of the system is located.

(45) On-site sewage facility (OSSF)--An on-site sewage disposal system.

(46) On-site waste disposal order--An order, ordinance, or resolution adopted by a local governmental entity and approved by the executive director.

(47) Operate--To use an on-site sewage facility.

(48) Owner--A person who owns property served by an on-site sewage facility (OSSF), or a person who owns an OSSF. This includes any person who holds legal possession or ownership of a total or partial interest in the structure or property served by an OSSF.

(49) Owner's agent--An installer, professional sanitarian, or professional engineer who is authorized to submit the permit application and the planning materials to the permitting authority on behalf of the owner.

(50) Permit--An authorization, issued by the permitting authority, to construct or operate an on-site sewage facility. The permit consists of the authorization to construct (including the approved planning materials) and the notice of approval.

**SUBCHAPTER D: RULES AND REGULATIONS
FOR PUBLIC WATER SYSTEMS
§§290.38 - 290.47
Effective January 3, 2019**

§290.38. Definitions.

The following words and terms, when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise. If a word or term used in this chapter is not contained in the following list, its definition shall be as shown in 40 Code of Federal Regulations (CFR) §141.2. Other technical terms used shall have the meanings or definitions listed in the latest edition of *The Water Dictionary: A Comprehensive Reference of Water Terminology*, prepared by the American Water Works Association.

(1) Affected utility--A retail public utility (§291.3 of this title (relating to Definitions of Terms)), exempt utility (§291.103 of this title (relating to Certificates Not Required)), or provider or conveyor of potable or raw water service that furnishes water service to more than one customer:

(A) in a county with a population of 3.3 million or more; or

(B) in a county with a population of 550,000 or more adjacent to a county with a population of 3.3 million or more.

(2) Air gap--The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet conveying water to a tank, fixture, receptor, sink, or other assembly and the flood level rim of the receptacle. The vertical, physical separation must be at least twice the diameter of the water supply outlet, but never less than 1.0 inch.

(3) American National Standards Institute (ANSI) standards--The standards of the American National Standards Institute, Inc.

(4) American Society of Mechanical Engineers (ASME) standards--The standards of the ASME.

(5) American Water Works Association (AWWA) standards--The latest edition of the applicable standards as approved and published by the AWWA.

(6) Approved laboratory--A laboratory approved by the executive director to analyze water samples to determine their compliance with certain maximum or minimum allowable constituent levels.

(31) Grantee--For purposes of this chapter, any person receiving an ownership interest in a public water system, whether by sale, transfer, descent, probate, or otherwise.

(32) Grantor--For purposes of this chapter, any person who conveys an ownership interest in a public water system, whether by sale, transfer, descent, probate, or otherwise.

(33) Groundwater--Any water that is located beneath the surface of the ground and is not under the direct influence of surface water.

(34) Groundwater under the direct influence of surface water--Any water beneath the surface of the ground with:

(A) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*;

(B) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions; or

(C) site-specific characteristics including measurements of water quality parameters, well construction details, existing geological attributes, and other features that are similar to groundwater sources that have been identified by the executive director as being under the direct influence of surface water.

(35) Health hazard--A cross-connection, potential contamination hazard, or other situation involving any substance that can cause death, illness, spread of disease, or has a high probability of causing such effects if introduced into the potable drinking water supply.

(36) Human consumption--Uses by humans in which water can be ingested into or absorbed by the human body. Examples of these uses include, but are not limited to drinking, cooking, brushing teeth, bathing, washing hands, washing dishes, and preparing foods.

(37) Indirect integrity monitoring--The monitoring of some aspect of filtrate water quality, such as turbidity, that is indicative of the removal of particulate matter.

(38) Innovative/alternate treatment--Any treatment process that does not have specific design requirements in §290.42(a) - (f) of this title (relating to Water Treatment).

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TITLE 30

ENVIRONMENTAL QUALITY

PART 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 290

PUBLIC DRINKING WATER

SUBCHAPTER D

RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS

RULE §290.44

Water Distribution

City

(iii) When a new waterline crosses under a wastewater main or lateral, the waterline shall be encased as described for wastewater mains or laterals in clause (ii) of this subparagraph or constructed of ductile iron or steel pipe with mechanical or welded joints as appropriate. An absolute minimum separation distance of one foot between the waterline and the wastewater main or lateral shall be provided. When a new waterline crosses under a wastewater main, the procedures in §217.53 (d) of this title (relating to Pipe Design) must be followed.

(iv) Where a new potable waterline crosses a new, pressure rated wastewater main or lateral, one segment of the waterline pipe shall be centered over and shall be perpendicular to the wastewater line such that the joints of the waterline pipe are equidistant and at least nine feet horizontally from the center line of the wastewater main or lateral. The potable waterline shall be at least six inches above the wastewater main or lateral. Whenever possible, the crossing shall be centered between the joints of the wastewater main or lateral. The wastewater pipe shall have a minimum pressure rating of at least 150 psi. The wastewater main or lateral shall be embedded in cement stabilized sand (see clause (v) of this subparagraph) for the total length of one pipe segment plus 12 inches beyond the joint on each end.

(v) Where cement stabilized sand bedding is required, the cement stabilized sand shall have a minimum of 10% cement per cubic yard of cement stabilized sand mixture, based on loose dry weight volume (at least 2.5 bags of cement per cubic yard of mixture). The cement stabilized sand bedding shall be a minimum of six inches above and four inches below the wastewater main or lateral. The use of brown coloring in cement stabilized sand for wastewater main or lateral bedding is recommended for the identification of pressure rated wastewater mains during future construction.

(5) Waterline and wastewater main manhole or lateral manhole or cleanout separation. The separation distance from a potable waterline to a wastewater main manhole or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant.

(6) Location of fire hydrants. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater main, wastewater lateral, or wastewater service line regardless of construction.

(7) Location of potable or raw water supply or suction lines. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line.

(8) Proximity of septic tank drainfields. Waterlines shall not be installed closer than ten feet to septic tank drainfields.

(f) Sanitary precautions and disinfection. Sanitary precautions, flushing, disinfection procedures, and microbiological sampling as prescribed in AWWA standards for disinfecting water mains shall be followed in laying waterlines.

(1) Pipe shall not be laid in water or placed where it can be flooded with water or sewage during its storage or installation.

(2) Special precautions must be taken when waterlines are laid under any flowing or intermittent stream or semipermanent body of water such as marsh, bay, or estuary. In these cases, the water main shall be installed in a separate watertight pipe encasement and valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested to determine that there are no leaks in the underwater line. Alternately, and with the permission of the executive director, the watertight pipe encasement may be omitted.

(3) New mains shall be thoroughly disinfected in accordance with AWWA Standard C651 and then flushed and sampled before being placed in service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure. Sampling shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer.

(g) Interconnections.

(1) Each proposal for a direct connection between public drinking water systems under separate administrative authority will be considered on an individual basis.

(A) Documents covering the responsibility for sanitary control shall accompany the submitted planning material.

(B) Each water supply shall be of a safe, potable quality.

(2) Where an interconnection between systems is proposed to provide a second source of supply for one or both systems, the system being utilized as a second source of supply must be capable of supplying a minimum of 0.35 gallons per minute per connection for the total number of connections in the combined distribution systems.

(h) Backflow, siphonage.

(1) No water connection from any public drinking water supply system shall be allowed to any residence or establishment where an actual or potential contamination hazard exists unless the public water facilities are protected from contamination.

(A) At any residence or establishment where an actual or potential contamination hazard exists, additional protection shall be required at the meter in the form of an air gap or backflow prevention assembly. The type of backflow prevention assembly required shall be determined by the specific potential hazard identified in §290.47(f) of this title (relating to Appendices). See App F

(B) At any residence or establishment where an actual or potential contamination hazard exists and an adequate internal cross-connection control program is in effect, backflow protection at the water service entrance or meter is not required.

(i) An adequate internal cross-connection control program shall include an annual inspection and testing by a licensed backflow prevention assembly tester on all backflow prevention assemblies used for health hazard protection.

(ii) Copies of all such inspection and test reports must be obtained and kept on file by the water purveyor.

(iii) It will be the responsibility of the water purveyor to ensure that these requirements are met.

(2) No water connection from any public drinking water supply system shall be connected to any condensing, cooling, or industrial process or any other system of nonpotable usage over which the public water supply system officials do not have sanitary control, unless the said connection is made in accordance with the requirements of paragraph (1) of this subsection. Water from such systems cannot be returned to the potable water supply.

(3) Overhead bulk water dispensing stations must be provided with an air gap between the filling outlet hose and the receiving tank to protect against back siphonage and cross-contamination.

(4) All backflow prevention assemblies that are required according to this section and associated table located in §290.47(f) of this title shall be tested upon installation by a licensed backflow prevention assembly tester and certified to be operating within specifications. Backflow prevention assemblies which are installed to provide protection against health hazards must also be tested and certified to be operating within specifications at least annually by a licensed backflow prevention assembly tester. ★

(A) Backflow prevention assembly testers shall have completed an executive director-approved course on cross-connection control and backflow prevention assembly testing, pass an examination administered by the executive director, and hold a current license as a backflow prevention assembly tester.

(i) Backflow prevention assembly testers are qualified to test and repair assemblies on any domestic, commercial, industrial, or irrigation service.

(ii) Backflow prevention assembly testers may test and repair assemblies on firelines only if they are permanently employed by an Approved Fireline Contractor. The Texas Department of Insurance's State Fire Marshal's Office requires that any person performing maintenance on firelines must be employed by an Approved Fireline Contractor.

(B) Gauges used in the testing of backflow prevention assemblies shall be tested for accuracy annually in accordance with the University of Southern California's Manual of Cross-Connection Control or the AWWA's Recommended Practice for Backflow Prevention and Cross-Connection Control (AWWA Manual M14). Public water systems shall require testers to include test gauge serial

numbers on the Backflow Prevention Assembly Test and Maintenance Report (commission Form 20700), and ensure testers have gauges tested for accuracy.

(C) A test report must be completed by the recognized backflow prevention assembly tester for each assembly tested. The signed and dated original must be submitted to the public water supplier for recordkeeping purposes. Any form which varies from the format specified in commission Form 20700 must be approved by the executive director prior to being placed in use.

(5) The use of a backflow prevention assembly at the service connection shall be considered as additional backflow protection and shall not negate the use of backflow protection on internal hazards as outlined and enforced by local plumbing codes.

(6) At any residence or establishment where there is no actual or potential contamination hazard, a backflow prevention assembly is not required.

(i) Water hauling. When drinking water is distributed by tank truck or trailer, it must be accomplished in the following manner.

(1) Water shall be obtained from an approved source.

(2) The equipment used to haul the water must be approved by the executive director and must be constructed as follows.

(A) The tank truck or trailer shall be used for transporting drinking water only and shall be labeled "Drinking Water." Tanks which have been used previously for purposes other than transporting potable liquids shall not be used for hauling drinking water.

(B) The tank shall be watertight and of an approved material which is impervious and easily cleaned and disinfected. Any paint or coating and any plastic or fiberglass materials used as contact surfaces must be approved by the United States Environmental Protection Agency, the United States Food and Drug Administration, or the NSF. Effective January 1, 1993, any newly installed surfaces shall conform to ANSI/NSF Standard 61 and must be certified by an organization accredited by ANSI.

(C) The tank shall have a manhole and a manhole cover which overlaps the raised manhole opening by a minimum of two inches and terminates in a downward direction. The cover shall fit firmly on the manhole opening and shall be kept locked.

(D) The tank shall have a vent which is faced downward and located to minimize the possibility of drawing contaminants into the stored water. The vent must be screened with 16-mesh or finer corrosion-resistant material.

(E) Connections for filling and emptying the tank shall be properly protected to prevent the possible entrance of contamination. These openings must be provided with caps and keeper chains.

(F) A drain shall be provided which will completely empty the tank for cleaning or repairs.

(G) When a pump is used to transfer the water from the tank, the pump shall be permanently mounted with a permanent connection to the tank. The discharge side of the pump shall be properly protected between uses by a protective cap and keeper chain.

(H) Hoses used for the transfer of drinking water to and from the tank shall be used only for that purpose and labeled for drinking water only. The hoses shall conform to ANSI/NSF Standard 61 and must be certified by an entity recognized by the commission. Hoses and related appurtenances must be cleaned and disinfected on a regular basis during prolonged use or before start-up during intermittent use. Hoses must be properly stored between uses and must be provided with caps and keeper chains or have the ends connected together.

(I) The tank shall be disinfected monthly and at any time that contamination is suspected.

(J) At least one sample per month from each tank shall be collected and submitted for microbiological analysis to one of the commission's approved laboratories for each month of operation.

(K) A minimum free chlorine residual of 0.5 milligrams per liter (mg/L) or, if chloramines are used as the primary disinfectant, a chloramine residual of 1.0 mg/L (measured as total chlorine) shall be maintained in the water being hauled. Chlorine or chlorine containing compounds may be added on a "batch" basis to maintain the required residual.

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Appendix F: Assessment of Hazards and Selection of Assemblies

The following table lists many common hazards. It is not an all-inclusive list of the hazards which may be found connected to public water systems.

Premises Isolation: Description of Premises	Assessment of Hazard	Required Assembly
Aircraft and missile plants	Health	RPBA or AG
Animal feedlots	Health	RPBA or AG
Automotive plants	Health	RPBA or AG
Breweries	Health	RPBA or AG
Canneries, packing houses and rendering plants	Health	RPBA or AG
Commercial car wash facilities	Health	RPBA or AG
Commercial laundries	Health	RPBA or AG
Cold storage facilities	Health	RPBA or AG
Connection to sewer pipe	Health	RPBA or AG
Dairies	Health	RPBA or AG
Docks and dockside facilities	Health	RPBA or AG
Dye works	Health	RPBA or AG
Food and beverage processing plants	Health	RPBA or AG
Hospitals, morgues, mortuaries, medical clinics, dental clinics, veterinary clinics, autopsy facilities, sanitariums, and medical labs	Health	RPBA or AG
Metal manufacturing, cleaning, processing, and fabrication plants	Health	RPBA or AG
Microchip fabrication facilities	Health	RPBA or AG
Paper and paper products plants	Health	RPBA or AG
Petroleum processing or storage facilities	Health	RPBA or AG
Photo and film processing labs	Health	RPBA or AG

Plants using radioactive material	Health	RPBA or AG
Plating or chemical plants	Health	RPBA or AG
Pleasure-boat marinas	Health	RPBA or AG
Private/Individual/Unmonitored wells	Health	RPBA or AG
Rainwater harvesting system	Health	RPBA or AG
Reclaimed water systems	Health	RPBA or AG
Restricted, classified or other closed facilities	Health	RPBA or AG
Rubber plants	Health	RPBA or AG
Sewage lift stations	Health	RPBA or AG
Sewage treatment plants	Health	RPBA or AG
Slaughter houses	Health	RPBA or AG
Steam plants	Health	RPBA or AG
Tall buildings or elevation differences where the highest outlet is 80 feet or more above the meter	Nonhealth	DCVA
<hr/>		
Internal Protection - Description of Cross-Connection	Assessment of Hazard	Required Assembly
<hr/>		
Aspirators	Nonhealth [†]	AVB
Aspirator (medical)	Health	AVB or PVB
Autoclaves	Health	RPBA
Autopsy and mortuary equipment	Health	AVB or PVB
Bedpan washers	Health	AVB or PVB
Connection to industrial fluid systems	Health	RPBA
Connection to plating tanks	Health	RPBA
Connection to salt-water cooling systems	Health	RPBA
Connection to sewer pipe	Health	AG

Cooling towers with chemical additives	Health	AG
Cuspidors	Health	AVB or PVB
Degreasing equipment	Nonhealth†	DCVA
Domestic space-heating boiler	Nonhealth†	RPBA
Dye vats or machines	Health	RPBA
Fire-fighting system (toxic liquid foam concentrates)	Health	RPBA
Flexible shower heads	Nonhealth†	AVB or PVB
Heating equipment		
Commercial	Nonhealth†	RPBA
Domestic	Nonhealth†	DCVA
Hose bibs	Nonhealth†	AVB
Irrigation systems		
with chemical additives	Health	RPBA
without chemical additives	Nonhealth†	DCVA, AVB, or PVB
Kitchen equipment - Commercial	Nonhealth†	AVB
Lab bench equipment	Health or Nonhealth†	AVB or PVB
Ornamental fountains	Health	AVB or PVB
Swimming pools		
Private	Nonhealth†	PVB or AG
Public	Nonhealth†	RPBA or AG
Sewage pump	Health	AG
Sewage ejectors	Health	AG
Shampoo basins	Nonhealth†	AVB
Specimen tanks	Health	AVB or PVB
Steam generators	Nonhealth†	RPBA
Steam tables	Nonhealth†	AVB
Sterilizers	Health	RPBA
Tank vats or other vessels containing toxic substances	Health	RPBA

Trap primers	Health	AG
Vending machines	Nonhealth†	RPBA or PVB
Watering troughs	Health	AG or PVB

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow prevention assembly.

*AVBs and PVBs may be used to isolate health hazards under certain conditions, that is, back siphonage situations. Additional area of premises isolation may be required.

†Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RPBA is required.

(g) Appendix G. Emergency Preparedness Plan Template.

Figure: 30 TAC §290.47(g)

Appendix G: Emergency Preparedness Plan Template

This appendix contains information to assist an affected utility in preparing an emergency preparedness plan. A comprehensive guide and shell form, TCEQ Form No. 20536, for preparing a plan is available from the executive director upon request. A cover letter containing the name of the affected utility; the affected utility representative's name, title, and contact telephone number; and, if applicable, the public water system's identification number (PWS ID) and district number must be included with the plan submittal.

Information provided by an affected utility relating to its emergency preparedness plan is confidential and is not subject to disclosure under Texas Government Code, Chapter 552.

Rules. All of 30 TAC Chapter 291, Subchapter L applies to affected utilities that are not public water systems. The following commission rules apply to affected utilities that are public water systems:

Definitions: §290.38

General Provisions: §290.39(c)(4)(A) - (E) and (o)(1) - (5)

Water Distribution: §290.44(d)

Minimum Water System Capacity Requirements: §290.45(a)(7), (b)(3), (c)(3), (d)(4), (e)(4), (g)(5)(A)(iv), (g)(5)(B), and (h).

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TITLE 30

ENVIRONMENTAL QUALITY

PART 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 344

LANDSCAPE IRRIGATION

SUBCHAPTER E

BACKFLOW PREVENTION AND CROSS-CONNECTIONS

RULE §344.50

Backflow Prevention Methods

Resident

(a) Any irrigation system that is connected to a public or private potable water supply must be connected through a commission-approved backflow prevention method. The backflow prevention device must be approved by the American Society of Sanitary Engineers; or the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California; or the Uniform Plumbing Code; or any other laboratory that has equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies. The backflow prevention device must be installed in accordance with the laboratory approval standards or if the approval does not include specific installation information, the manufacturer's current published recommendations.

(b) If conditions that present a health hazard exist, one of the following methods must be used to prevent backflow;

(1) An air gap may be used if:

(A) there is an unobstructed physical separation; and

(B) the distance from the lowest point of the water supply outlet to the flood rim of the fixture or assembly into which the outlet discharges is at least one inch or twice the diameter of the water supply outlet, whichever is greater.

(2) Reduced pressure principle backflow prevention assemblies may be used if:

(A) the device is installed at a minimum of 12 inches above ground in a location that will ensure that the assembly will not be submerged; and

(B) drainage is provided for any water that may be discharged through the assembly relief valve.

(3) Pressure vacuum breakers may be used if:

(A) no back-pressure condition will occur; and

(B) the device is installed at a minimum of 12 inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler.

(4) Atmospheric vacuum breakers may be used if:

(A) no back-pressure will be present;

(B) there are no shutoff valves downstream from the atmospheric vacuum breaker;

(C) the device is installed at a minimum of six inches above any downstream piping and the highest downstream opening. Pop-up sprinklers are measured from the retracted position from the top of the sprinkler;

(D) there is no continuous pressure on the supply side of the atmospheric vacuum breaker for more than 12 hours in any 24-hour period; and

(E) a separate atmospheric vacuum breaker is installed on the discharge side of each irrigation control valve, between the valve and all the emission devices that the valve controls.

(c) Backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter.

(d) If there are no conditions that present a health hazard double check valve backflow prevention assemblies may be used to prevent backflow if the device is tested upon installation and:

(1) a local regulatory authority does not prohibit the use of a double check valve;

(2) backpressure caused by an elevation of pressure in the discharge piping by pump or elevation of piping above the supply pressure which could cause a reversal of the normal flow of water or back-siphonage conditions caused by a reduced or negative pressure in the irrigation system exist; and

(3) test cocks are used for testing only.

(e) If a double check valve is installed below ground:

(1) test cocks must be plugged, except when the double check valve is being tested;

(2) test cock plugs must be threaded, water-tight, and made of non-ferrous material;

(3) a y-type strainer is installed on the inlet side of the double check valve;

(4) there must be a clearance between any fill material and the bottom of the double check valve to allow space for testing and repair; and

(5) there must be space on the side of the double check valve to test and repair the double check valve.

Source Note: The provisions of this §344.50 adopted to be effective January 1, 2009, 33 TexReg 5713

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CHAPTER 344	LANDSCAPE IRRIGATION
SUBCHAPTER E	BACKFLOW PREVENTION AND CROSS-CONNECTIONS
RULE §344.51	Specific Conditions and Cross-Connection Control

Resident

(a) Before any chemical is added to an irrigation system connected to any potable water supply, the irrigation system must be connected through a reduced pressure principle backflow prevention assembly or air gap.

(b) Connection of more than one water source to an irrigation system presents the potential for contamination of the potable water supply if backflow occurs. Therefore, connection of any additional water source to an irrigation system that is connected to the potable water supply can only be done if the irrigation system is connected to the potable water supply through a reduced-pressure principle backflow prevention assembly or an air gap.

(c) Irrigation system components with chemical additives induced by aspiration, injection, or emission system connected to any potable water supply must be connected through a reduced pressure principle backflow device.

(d) If an irrigation system is designed or installed on a property that is served by an on-site sewage facility, as defined in Chapter 285 of this title (relating to On-Site Sewage Facilities), then:

(1) all irrigation piping and valves must meet the separation distances from the On-Site Sewage Facilities system as required for a private water line in §285.91(10) of this title (relating to Minimum Required Separation Distances for On-Site Sewage Facilities);

(2) any connections using a private or public potable water source must be connected to the water source through a reduced pressure principle backflow prevention assembly as defined in §344.50 of this title (relating to Backflow Prevention Methods); and

(3) any water from the irrigation system that is applied to the surface of the area utilized by the On-Site Sewage Facility system must be controlled on a separate irrigation zone or zones so as to allow complete control of any irrigation to that area so that there will not be excess water that would prevent the On-Site Sewage Facilities system from operating effectively.

Source Note: The provisions of this §344.51 adopted to be effective January 1, 2009, 33 TexReg 5713

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CHAPTER 344	LANDSCAPE IRRIGATION
SUBCHAPTER E	BACKFLOW PREVENTION AND CROSS-CONNECTIONS
RULE §344.52	Installation of Backflow Prevention Device

(a) If an irrigation system is connected to a potable water supply and requires major maintenance, alteration, repair, or service, the system must be connected to the potable water supply through an approved, properly installed backflow prevention method as defined in this title before any major maintenance, alteration, repair, or service is performed.

(b) If an irrigation system is connected to a potable water supply through a double check valve, pressure vacuum breaker, or reduced pressure principle backflow assembly and includes an automatic master valve on the system, the automatic master valve must be installed on the discharge side of the backflow prevention assembly.

(c) The irrigator shall ensure the backflow prevention device is tested prior to being placed in service and the test results provided to the local water purveyor and the irrigation system's owner or owner's representative within ten business days of testing of the backflow prevention device.

Source Note: The provisions of this §344.52 adopted to be effective January 1, 2009, 33 TexReg 5713

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City of Shavano Park

Sec. 6-165. - Water service.

- (a) Upon application and payment of the established connection fee and water meter deposit, the City will provide water to any platted lot within the City's area as defined by the certificate of convenience and necessity (CCN).
- (b) The connection fee will cover installation of a three-fourths-inch connection to the water main, a three-fourths-inch service pipe and a five-eighths-inch meter and meter box. Where a pavement cut is required, the cost of such cut will be borne by the owner, contractor or other person responsible for the construction.
- (c) The service line from the meter to the house shall be installed by the owner or contractor and shall be a minimum one-inch inside diameter of schedule 40 PVC or one-inch copper tubing meeting ASTM specifications type L soft. The one-inch tubing shall be connected to the water meter through a substantial three-fourths-inch or one-inch brass cutoff ball valve.
- (d) Attachment of a temporary water faucet will not be permitted without an installed meter and hose bib vacuum breaker device installed on temporary water faucet with a customer-installed control ball valve. Violation of this provision will constitute a \$200.00 fine.
- (e) All lawn sprinklers must have a control valve and an approved double check backflow prevention device to protect the City's water system from bacterial contamination. The valve must be separate from the house water system. Both house service and sprinkler service must have an individual control valve.
- (f) The backflow prevention device test and maintenance report must be submitted to the Building Official as a component of the final inspection. The report must be signed by a State certified tester.

(Ord. No. 100-03-07, art. II, § 8(a), 7-17-2007)