WATER AND SEWER RATE STUDY

PREPARED FOR

CITY OF BEATRICE
BOARD OF PUBLIC WORKS
BEATRICE, NEBRASKA

MAY 2014

OA PROJECT NO. 013-2627

TABLE OF CONTENTS

TABLE OF CONTENTS CONT'D.

F:\Projects\013-2627\Documents\Reports\Cost of Service Report\TOC.doc

SECTION I – WATER AND SEWER RATES

A. Executive Summary

1. Scope of Work

This report was prepared for the Beatrice Board of Public Works (BPW), at their request. The purpose of the report is to analyze the municipal water and sewer rates on a Cost-of-Service (COS) basis and design rates, if changes are required, that attempt to recover the cost of providing service to the individual customer classes.

Studies such as this require a review of substantial amounts of data, assignment of cost(s) to customer classes, and design of rates. To assist in accomplishing this task we have used a software program prepared and recommended by the American Water Works Association (AWWA). A description of that program is included in Section I-B of this report.

2. Summary of Findings

a. Water Revenues – Based upon this review, it appears that overall water system revenues should increase, in order to develop a cash reserve and maintain system viability. By doing this, the revenues will need to increase each year, with a larger increase during the first step and smaller increases during the remaining steps of the planning horizon. These increases were calculated using the average water use of 6.2 Mgal per month, as recorded in the 2013 water use data. By implementing this structure, the BPW will build a cash reserve of approximately $2,160,000 by the end of Fiscal Year (FY) 2019. This recommendation includes the City's current Capital Improvements Program (CIP) through 2019. Significant improvements to the water system are planned with this rate increase, along with the build-up of cash reserves.

b. Sewer Revenues – Based upon this review, it appears that overall Water Pollution Control (WPC) department revenues should be increased as well. The methodology for the sewer revenues are similar to that used for the water system. The sewer rates were calculated using an average sewer generation of 3.8 Mgal per month, as recorded in the 2013 water use data. By implementing this structure, the BPW will build a cash reserve of approximately $2,000,000 by the end of FY 2019. This recommendation includes the accomplishments of the City's WPC systems budget, CIP programs and increase rates in preparation of a major wastewater plant upgrade in FY 2019.

B. Methodology

The COS allocation, and the subsequent rate design, is intended to accomplish the following for the utility and its customers:

- Define customer classes with similar usage and cost characteristics;
- Determine the costs (expense) to adequately install, expand, operate and maintain the utility;
- Allocate those costs to individual customer classes as accurately as possible; and
- Design rates which recover the allocated costs and which provide proper signals to the users regarding the cost of the service.

There is normally more than one method to accomplish the allocation; however, the results of all generally accepted methods should be similar. It is normally a decision by the utility, in conjunction with the rate designer, to determine the method which best applies in each case.

For the water and sewer study software prepared and recommended by the AWWA of Denver, Colorado has been used for the data and rate comparison. The software uses an allocation method called "Average and Excess" which essentially prorates a portion of the costs to all users (based upon "average" or base use) and the "excess" to those using more than average. This method of allocation is a generally accepted standard for water and wastewater utilities.

As will be seen later in the report, rate studies such as this require substantial amounts of data and pages of calculations. All pertinent data and calculations, as provided by the BPW, have been included in the report to aid in subsequent rate evaluations.

Rate comparisons with other communities are also included in the report for general interest. However, because of the difference in costs for each community, such as in water supply costs, rate comparisons serve little purpose in actually determining the COS for your utility. For instance, some communities are able to obtain large volumes of relatively pure water from shallow wells along rivers. Treatment and pumping costs are subsequently minimal. Other communities may have limited supplies of good water and incur substantial cost in pumping and perhaps treating the supply.

Because it is not possible to perfectly determine the cost to serve, we suggest that the recommendations included in this report be considered as guidelines for any changes between rate classes. That direction can be confirmed and verified by subsequent studies. A test has been selected for the COS analysis. The test year is FY 2014.

C. Recent Capital Improvements Plan Study Summaries

The City has recently completed a water study and capital improvement plan for the wastewater treatment plant. A water study was completed by Olsson Associates in July 2012 (OA Project No. 012-0054). The wastewater treatment facility capital improvement plan was completed in March 2014, under the same project number as this document. The results from each of these studies recommend several improvements to be completed over the next few years. Suggested improvement summary information from each of these studies is provided for reference.

1. Water Study Suggested Improvements

Using the water model, past studies, and conversations with public works staff, a total of 16 potential improvements were identified for the water system. Seven (7) of the improvements were main replacement projects, 6 were to address fire protection deficiencies due to undersized mains, and 3 were to provide for future expansion.

After the improvements were identified, a budget cost estimate was calculated for each project. In order to most accurately compare and prioritize the projects, a Benefit Cost Ratio (BCR) matrix was set up. The matrix allowed each project to be compared taking not only the estimated cost, but the project's overall benefit to the system into account.

Of the main replacement projects that were identified, the BCR identified that the highest priority projects are to replace 2 river crossings, 1 at the 6th Street Bridge, and 1 at the Court Street Bridge.

The projects to improve fire protection generally consist of upsizing 4-inch mains to 6 inches or greater. The highest priority project identified was to tie an existing 4-inch main into a 12-inch main. This project showed an extremely high increase to the system's fire protection capabilities in the region at a relatively low cost.

The improvements identified for future expansion were prioritized by their ease of construction and the ability of each project to serve an immediate need. The projects were all evaluated to have similar Benefit to Cost Ratios, with 2 having equal scores. The project given the lowest priority was a new transmission main to serve customers in the southeast part of Beatrice, as its construction would require booster pump stations to serve those outside of the current water service area.

Additional information regarding the proposed improvements is provided as follows:

2. Main Replacement Projects
   - 10-inch Main on Court Street, 1st Street to 10th Street.
   - Replace 10-inch Aerial Crossing installed on South 6th Street Bridge over Big Blue River with a directionally drilled crossing underneath the river. This main has had several leaks in recent history.
   - 8-inch Main on 16th Avenue, from Jefferson to Hoyt Street, then east to 18th Street.
   - Replace a 5-inch steel Main on 2nd Street with a new 6-inch main, Court to Scott Street; tie into an existing 4-inch main in the alley between Scott and Bell.
   - Replace 6-inch main on Garfield from 16th to 18th Street.
   - 6-inch Main on Sara Road, 16th to 18th Street.
   - Replace 12-inch River Crossing on Court Street from Memorial to 1st Street. This main has not had any maintenance issues in recent history.

3. Undersized Water Mains/Improvements to Fire Protection Capabilities

   In general, all water mains that are currently 4 inches in diameter should be upsized to a minimum of 6 inches, with a long term goal of eliminating all 4-inch mains in the system. The following is a list of the mains that are a high priority due to main breaks and inability to provide fire protection.
   - Upsize 4-Inch main to 8-inch main on 9th Street, from Beaver to Greens Street.
   - Extend 10-inch main from 6th & Holbrook to 6th & Caldwell.
   - Tie existing 4-inch main along Sumner Street into 12-inch main at intersection of Helen & Sumner.
   - 4-inch main on 8th and Oak. This main has broken recently, and is currently temporarily capped. The H_2ONet water model showed that the hydrants on this 4-inch main are unable to provide the necessary residual pressure of 20 psi during a fire flow. The 4-inch mains in this area should be upsized to 6 inches on 8th Street from Beaver to Oak Street, and from 8th to 13th on Oak Street.
   - Upsize existing 4-inch main to 6 inches from 5th & Court to 5th & Elk Street.
   - Upsize existing 4-inch mains to 6 inches on Mary and Court Street from Sherman to Sumner, and on Sherman and Cedar, Mary to Court Street.

4. Improvements to Provide for Future Expansion

In addition to the above improvements, there were additional water main improvements identified in the 2003 water study that have not yet been construction:

- Build a 12-inch water main, 3 quarters of a mile to the south of 19th & Oak, and then a mile to the west. Due to approximately half of the length of this main being outside of the current water service area, building in this area would require the pressure to be boosted to serve future customers.
- Build a new 12-inch water main from 19th & Dorsey east 1/2 mile, then south for 1/2 mile to tie into 26th & Hoyt Street.
- Extend 12-inch main west of 26th & Jefferson south to 10-inch main on Lincoln Street, and construct a 12-inch main along Lincoln Street a quarter mile east to 33rd Street and then south approximately a half mile to 33rd and Court Street. This project will provide for future expansion, as well as loop major water mains along the east edge of town.

5. Planned Improvements

a. The City has budgeted and planned for the following project, and plans to construct it in 2012:
   - Upsize the 4-inch main on High Street from 9th to 19th Street to an 8-inch main
   - Upsize 4-inch main on 20th Street, High to Grant to a 6-inch main
   - Upsize 4-inch main on 21st Street, High to Grant to an 8-inch main

b. The City is currently evaluating the possibility of shifting Highway 136 south to Market Street. Should this take place, it would require replacing water mains on Market Street from 2nd Street to 6th.

Refer to the water study for additional information or detail.

6. WWTP CIP Summary

A summary of improvements for the existing WWTP was developed in order to meet current conditions. These improvements are summarized as follows:

- Influent Lift Station
  - Install Screening
  - Repair Concrete
  - Install 2 Additional Smaller Raw Sewage Pumps
- Grit Removal
  - Modify Splitter Box to Primary Clarifiers to Balance Flow
- Primary Clarifiers
  - Evaluate/adjust Splitter Box to balance hydraulics in both clarifiers

- Trickling Filter
  - Modify operations to Increase Biochemical Oxygen Demand (BOD) Removal
- RBC's
  - If efficiency can be increased in trickling filter, consider shutting down RBC's
- Final Clarifiers
  - None
- Cover UV System
  - If year-round disinfection is required a Cover Should be Provided
- Solids Processing
  - Increase capacity to accommodate future processes
- Electrical Systems
  - Improve as required to support new equipment at Influent Lift Station and to support future processes
- Controls
  - Short Term – Minor modifications to Existing Control System at the Plant
  - Long-Term – Provide Supervisory Control & Data Acquisition (SCADA) System to support future processes

It was also recommended that an additional treatment alternative was necessary in order to meet anticipated future discharge permit limits. The treatment process selected to meet those limits was the Sequencing Batch Reactor (SBR) process. The WWTP improvement summary, including the new treatment process was included in a 10-year plan, summarized in Table IX-1 of the original study.

Table I-1 - WWTP Capital Improvement Plan Summary
(Modified from Table IX-1 of CIP Report-March 2014)

	Year	Description
1	2013	Current NPDES Permit Issued (June)
2	2014	Additional Influent Sampling **
3	2014	Repair Concrete in Raw Pump Station; Design 2 New Raw Sewage Pumps; Determine/Adjust Recirculation Rate to Existing Trickling Filter; Complete Minor Control Modifications
4	2015	Additional Influent Sampling**
5	2015	Install 2 New Raw Sewage Pumps; if Trickling Filter Efficiency can be Improved, Then RBC's can be taken off-line
6	2016	Additional Influent Sampling**
7	2017	Additional Influent Sampling**
8	2018	Additional Influent Sampling**
9	2018	Next NPDES Permit Scheduled to be Issued (June); Begin Preliminary Design
10	2019	Final Design of SBR Treatment Process, Submit Plans and Specifications to the NDEQ; Include Control Upgrades, and Primary Clarifier Modifications; Influent Screening; If Year-round Disinfection is Required by New NPDES Permit, Enclose UV System
11	2020	Advertise for Bids & Initiate Construction
12	2021	Complete Construction and Start-Up

As described, the City has elected to pursue several system improvements over the next several years. The financial ability to support these endeavors is critical to maintain system viability. These improvements are included in this review.

D. Items to Consider

As part of any kind of study, there are some items to keep in mind as the study progresses. In the case of a rate study, there are some indicators of the financial health of an organization. Municipal water and sewer systems are no exception.

As recommended in AWWA Manual of Water Supply Practices, M1: Principles of Water Rates, Fees, and Charges: "Transfers from the government entity general fund are used as a revenue source to fund such items as debt service, various capital outlays, and Operation and Maintenance (O&M) expenses. With the exception of dedicated funds, utilities that use such transfers are not considered to be adequately financed, self-sustaining enterprises (AWWA, 2000, pg. 11)."

SECTION II – MUNICIPAL WATER RATES

A. Historic and Projected Water Sales

Tables II-1 and II-2 summarize the water sales by the Beatrice BPW for October 2011 through September 2013. Table II-1 includes various classifications of customers as requested from the City with data provided from FYs 2012 and 2013. The classifications shown are Residential, Commercial, and Contract, for a total of 3 customer classifications. Table II-2 provides information from FY 2013 regarding the large water using customers. The largest non-contract water user during FY 2013 was Southeast Community College. In all of the tables, the term Mgal is a reference to 1,000 gallons, using Roman numeral annotation.

The Contract classification contains 2 users: Koch and Agrium, which are fertilizer plants located within the City limits. Two (2) additional contract users, the Village of Filley and the Lower Big Blue Natural Resource District (NRD) have separate supply contracts, which were previously classified as contract users, but are now included within the commercial classification based on meter size. They are billed the same as commercial customers and are combined within that rate class for this report. Information regarding the residential contract users is separated for organizational purposes.

Tables II-3 and II-4 show the current water rates, at the time of the study, for existing BPW customer classes. It should be noted that the service charge is based on meter size, and is the same between Residential, Commercial, and Contract rate classes. Water use charges are also similar, with the exception of the Contract water users. The water charge is a flat rate per 1,000 gallons.

Table II-3 – Existing Water Rates & User Fees: Residential, Commercial, and Contract-Residential Users

Rate Class	Meter Size (inch)	Monthly User Charge*	Rates (per Mgal)
Residential	5/8, 3/4	$12.75	$1.86
Commercial	5/8, 3/4	$13.75	$1.86
	1	$16.95	$1.86
	1 ¼, 1 ½	$22.20	$1.86
	2	$30.15	$1.86
	3 +	$52.25	$1.86
Lower Big Blue NRD	3 +	$52.25	$1.86
Village of Filley	3 +	$52.25	$1.86

*Includes Infrastructure Improvement Charge of $2/Month–Residential and $3/Month Commercial/Contract

Beatrice Water Rates
OA Project No. 013-2627

Table II-1

General Classifications of Customers

Period	2011 to			2012 Fiscal Year										
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Totals/Avg	
Residential														
Users	4,999	4,995	4,964	4,948	4,944	4,949	4,942	4,984	4,995	5,015	5,008	5,020	4,980	Avg
Use (gal)	41,135,000	30,084,000	20,891,000	21,342,000	20,539,000	19,823,000	20,155,000	24,609,000	57,736,000	55,178,000	72,776,000	62,413,000	446,681,000	
Use (Mgal)	41,135	30,084	20,891	21,342	20,539	19,823	20,155	24,609	57,736	55,178	72,776	62,413	446,681	
Revenues	$120,961	$102,438	$86,838	$87,480	$86,116	$84,905	$85,446	$93,204	$140,389	$144,571	$174,282	$156,790	$1,363,420	
Avg. Use (Mgal)	8.23	6.02	4.21	4.31	4.15	4.01	4.08	4.94	11.56	11.00	14.53	12.43	7.46	Avg
Avg. Revenue ($/User)	$24.20	$20.51	$17.49	$17.68	$17.42	$17.16	$17.29	$18.70	$28.11	$28.83	$34.80	$31.23	$22.78	Avg
Commercial														
Users	651	632	613	608	607	619	637	649	651	656	658	657	637	Avg
Use (gal)	25,098,000	21,528,000	18,043,000	17,785,000	20,847,000	18,727,000	20,262,000	28,687,000	35,269,000	41,856,000	43,444,000	34,531,000	326,077,000	
Use (Mgal)	25,098	21,528	18,043	17,785	20,847	18,727	20,262	28,687	35,269	41,856	43,444	34,531	326,077	
Revenues	$51,759	$45,502	$39,412	$38,916	$43,983	$40,594	$43,498	$57,827	$68,847	$79,883	$80,865	$67,633	$658,719	
Avg. Use (Mgal)	38.55	34.06	29.43	29.25	34.34	30.25	31.81	44.20	54.18	63.80	66.02	52.56	42.37	Avg
Avg. Revenue ($/User)	$79.51	$72.00	$64.29	$64.01	$72.46	$65.58	$68.29	$89.10	$105.76	$121.77	$122.90	$102.94	$85.72	Avg
Contract	***Koch/Agrium***													
Users	2	2	2	2	2	2	2	2	2	2	2	2	2	Avg
Use (gal)	53,628,000	55,993,000	47,585,000	50,732,000	54,183,000	38,573,000	51,003,000	60,384,000	54,086,000	66,060,000	20,865,000	46,088,000	599,180,000	
Use (Mgal)	53,628	55,993	47,585	50,732	54,183	38,573	51,003	60,384	54,086	66,060	20,865	46,088	599,180	
Revenues	$20,806	$22,366	$19,175	$21,111	$22,548	$16,751	$21,645	$24,986	$22,759	$27,007	$9,998	$19,626	$248,778	
Avg. Use (Mgal)	26,814	27,997	23,793	25,366	27,092	19,287	25,502	30,192	27,043	33,030	10,433	23,044	24965.83	Avg
Avg. Revenue ($/User)	$10,403.00	$11,183.00	$9,587.50	$10,555.50	$11,274.00	$8,375.50	$10,822.50	$12,493.00	$11,379.50	$13,503.50	$4,999.00	$9,813.00	$10,365.75	Avg
TOTAL														
Users	5,652	5,629	5,579	5,558	5,553	5,570	5,581	5,635	5,648	5,673	5,668	5,679	5,619	Avg
Use (gal)	119,861,000	107,605,000	86,519,000	89,859,000	95,569,000	77,123,000	91,420,000	113,680,000	147,091,000	163,094,000	137,085,000	143,032,000	1,371,938,000	
Use (Mgal)	119,861	107,605	86,519	89,859	95,569	77,123	91,420	113,680	147,091	163,094	137,085	143,032	1,371,938	
Revenues	$193,526	$170,306	$145,425	$147,507	$152,647	$142,250	$150,589	$176,017	$231,995	$251,461	$265,145	$244,049	$2,270,917	
Avg. Monthly Use (Mgal)													114,328	Avg
Avg. Monthly Revenue													$189,243.08	Avg

F:\Projects\013-2627\Data\Cost of Service Data\[WaterRateCalculations_2014.xlsx]Table1

Beatrice Water Rates
OA Project No. 013-2627

Table II-1 **General Classifications of Customers Cont'd.**

Period	2012 to			2013 Fiscal Year										
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Totals	
Residential														
Users	5,008	5,006	4,986	4,965	4,965	4,977	4,988	4,980	5,009	5,021	4,993	5,013	4,993	Avg
Use (gal)	43,478,000	28,716,000	24,181,000	20,553,000	18,656,000	18,585,000	19,629,000	20,436,000	29,426,000	44,420,000	58,458,000	43,069,000	369,607,000	
Use (Mgal)	43,478	28,716	24,181	20,553	18,656	18,585	19,629	20,436	29,426	44,420	58,458	43,069	369,607	
Revenues	$134,326	$107,793	$99,513	$92,821	$89,349	$89,112	$91,264	$92,634	$109,133	$136,121	$161,165	$133,696	$1,336,927	
Avg. Use (Mgal)	8.68	5.74	4.85	4.14	3.76	3.73	3.94	4.10	5.87	8.85	11.71	8.59	6.16	Avg
Avg. Revenue ($/User)	$26.82	$21.53	$19.96	$18.70	$18.00	$17.90	$18.30	$18.60	$21.79	$27.11	$32.28	$26.67	$22.30	Avg
Commercial														
Users	655	646	621	612	615	614	617	634	645	646	636	653	633	Avg
Use (gal)	28,516,000	19,526,000	15,121,000	15,411,000	16,430,000	16,543,000	18,341,000	23,234,000	24,880,000	36,503,000	33,399,000	29,504,000	277,408,000	
Use (Mgal)	28,516	19,526	15,121	15,411	16,430	16,543	18,341	23,234	24,880	36,503	33,399	29,504	277,408	
Revenues	$61,644	$45,340	$37,049	$37,486	$39,322	$39,551	$42,839	$51,896	$55,071	$76,047	$70,490	$63,527	$620,262	
Avg. Use (Mgal)	43.54	30.23	24.35	25.18	26.72	26.94	29.73	36.65	38.57	56.51	52.51	45.18	36.34	Avg
Avg. Revenue ($/User)	$94.11	$70.19	$59.66	$61.25	$63.94	$64.42	$69.43	$81.85	$85.38	$117.72	$110.83	$97.28	$81.34	Avg
Contract	***Koch/Agrium***													
Users	2	2	2	2	2	2	2	2	2	2	2	2	2	Avg
Use (gal)	58,374,000	53,271,000	46,282,000	54,310,000	42,690,000	49,862,000	51,599,000	49,275,000	61,842,000	63,606,000	55,984,000	56,075,000	643,170,000	
Use (Mgal)	58,374	53,271	46,282	54,310	42,690	49,862	51,599	49,275	61,842	63,606	55,984	56,075	643,170	
Revenues	$24,289	$22,530	$19,852	$24,359	$19,809	$22,772	$23,592	$22,625	$27,852	$28,468	$25,266	$24,651	$286,065	
Avg. Use (Mgal)	29,187	26,636	23,141	27,155	21,345	24,931	25,800	24,638	30,921	31,803	27,992	28,038	26798.75	Avg
Avg. Revenue ($/User)	$12,144.50	$11,265.00	$9,926.00	$12,179.50	$9,904.50	$11,386.00	$11,796.00	$11,312.50	$13,926.00	$14,234.00	$12,633.00	$12,325.50	$11,919.38	Avg
TOTAL														
Users	5,665	5,654	5,609	5,579	5,582	5,593	5,607	5,616	5,656	5,669	5,631	5,668	5,627	Avg
Use (gal)	130,368,000	101,513,000	85,584,000	90,274,000	77,776,000	84,990,000	89,569,000	92,945,000	116,148,000	144,529,000	147,841,000	128,648,000	1,290,185,000	
Use (Mgal)	130,368	101,513	85,584	90,274	77,776	84,990	89,569	92,945	116,148	144,529	147,841	128,648	1,290,185	
Revenues	$220,259	$175,663	$156,414	$154,666	$148,480	$151,435	$157,695	$167,155	$192,056	$240,636	$256,921	$221,874	$2,243,254	
Avg. Use (Mgal)	29,239	26,671	23,170	27,184	21,375	24,962	25,833	24,678	30,965	31,868	28,056	28,091	26841.25	Avg
Avg. Revenue ($/User)	$12,265.44	$11,356.72	$10,005.62	$12,259.45	$9,986.43	$11,468.32	$11,883.73	$11,412.96	$14,033.17	$14,378.83	$12,776.11	$12,449.45	$12,023.02	Avg

Beatrice Water Rates
OA Project No. 013-2627

Table II-2 **Large Customer Water Sales** **Period 2012 to 2013**

User	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL /AVG
KOCH NITROGEN COMPANY													
Use (Mgal)	57,563	52,934	45,887	53,085	41,986	49,214	51,214	48,855	61,604	63,105	55,297	53,796	634,540
Revenues	$22,131	$20,372	$17,695	$22,037	$17,487	$20,450	$21,270	$20,303	$25,530	$26,145	$22,944	$22,329	$258,693
Avg. $/Mgal	$0.384	$0.385	$0.386	$0.415	$0.416	$0.416	$0.415	$0.416	$0.414	$0.414	$0.415	$0.415	$0.408
SOUTHEAST COMMUNITY COLLEGE													
Use (Mgal)	1,272	833	888	687	652	1,073	2,424	4,085	1,683	1,680	1,348	823	17,448
Revenues	$2,339	$1,549	$1,648	$1,286	$1,223	$1,981	$4,412	$7,402	$3,079	$3,073	$2,476	$1,531	$31,997
Avg. $/Mgal	$1.839	$1.859	$1.855	$1.872	$1.876	$1.846	$1.820	$1.812	$1.829	$1.829	$1.837	$1.860	$1.844
B S D C													
Use (Mgal)	990	1,090	1,340	1,060	2,700	1,810	934	782	844	1,537	2,154	1,143	16,384
Revenues	$2,010	$2,212	$2,717	$2,152	$5,465	$3,667	$1,897	$1,590	$1,715	$3,115	$4,362	$2,319	$33,222
Avg. $/Mgal	$2.031	$2.030	$2.028	$2.030	$2.024	$2.026	$2.031	$2.033	$2.032	$2.027	$2.025	$2.029	$2.029
Agrium													
Use (Mgal)	811	337	395	1,225	704	648	385	420	238	501	687	2,279	8,630
Revenues	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$2,158	$25,890
Avg. $/Mgal	$2.660	$6.402	$5.462	$1.761	$3.065	$3.329	$5.604	$5.137	$9.065	$4.306	$3.140	$0.947	$4.240
SOUTHEAST COMMUNITY COLLEGE													
Use (Mgal)	1,223	572	297	503	543	470	461	559	683	1,711	1,083	1,059	9,164
Revenues	$1,295	$1,164	$610	$1,027	$1,107	$960	$938	$879	$693	$5,412	$1,416	$1,113	$16,615
Avg. $/Mgal	$1.059	$2.035	$2.055	$2.041	$2.039	$2.042	$2.034	$1.573	$1.015	$3.163	$1.308	$1.051	$1.785
Village of Filley													
Use (Mgal)	677	538	431	476	425	408	664	997	961	1,358	857	657	8,449
Revenues	$1,457	$1,473	$1,324	$1,521	$1,348	$1,444	$972	$1,363	$1,272	$1,370	$1,474	$1,140	$16,156
Avg. $/Mgal	$2.152	$2.737	$3.073	$3.195	$3.171	$3.539	$1.464	$1.367	$1.324	$1.009	$1.719	$1.735	$2.207
Beatrice Community Hospital													
Use (Mgal)	732	510	268	263	212	260	362	634	952	1,554	867	989	7,603
Revenues	$1,367	$967	$532	$523	$431	$517	$701	$1,190	$1,763	$2,846	$1,610	$1,829	$14,276
Avg. $/Mgal	$1.867	$1.897	$1.984	$1.987	$2.032	$1.989	$1.936	$1.878	$1.852	$1.832	$1.857	$1.850	$1.913
Lower Big Blue NRD													
Use (Mgal)	307	248	215	243	234	223	215	278	386	579	436	401	3,765
Revenues	$580	$474	$414	$465	$448	$429	$414	$528	$722	$1,069	$812	$749	$7,103
Avg. $/Mgal	$1.888	$1.909	$1.926	$1.912	$1.916	$1.922	$1.926	$1.898	$1.870	$1.847	$1.862	$1.868	$1.895
EXMARK MANUFACTURING CO													
Use (Mgal)	93	149	196	233	257	282	293	278	295	261	181	252	2,770
Revenues	$195	$295	$380	$447	$490	$535	$555	$528	$558	$497	$353	$481	$5,312
Avg. $/Mgal	$2.092	$1.982	$1.939	$1.917	$1.906	$1.896	$1.893	$1.898	$1.893	$1.904	$1.950	$1.908	$1.931
Beatrice Senior High School - sprinkler													
Use (Mgal)	649	0	0	0	0	1	4	149	219	616	521	416	2,575
Revenues	$1,217	$0	$25	$49	$49	$51	$56	$317	$443	$1,158	$987	$798	$5,152
Avg. $/Mgal	$1.876	$0.000	$0.000	$0.000	$0.000	$51.050	$14.113	$2.131	$2.025	$1.880	$1.895	$1.918	$6.407
Store Kraft													
Use (Mgal)	100	20	18	26	24	31	27	268	311	559	497	456	2,337
Revenues	$229	$85	$82	$96	$92	$105	$98	$532	$609	$1,055	$944	$870	$4,798
Avg. $/Mgal	$2.293	$4.263	$4.536	$3.694	$3.852	$3.389	$3.624	$1.984	$1.958	$1.888	$1.899	$1.908	$2.941
ACCUMA													
Use (Mgal)	189	114	141	156	149	168	159	119	112	111	130	113	1,661
Revenues	$367	$232	$281	$308	$295	$330	$313	$241	$229	$227	$261	$231	$3,316
Avg. $/Mgal	$1.944	$2.038	$1.993	$1.974	$1.982	$1.962	$1.971	$2.028	$2.042	$2.045	$2.009	$2.040	$2.002
GOOD SAMARITAN SOC - BEATRICE													
Use (Mgal)	0	0	0	0	0	0	0	0	0	973	208	315	1,496
Revenues	0	27	27	27	27	27	27	27	27	1,779	402	$603	$3,000
Avg. $/Mgal	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$1.828	$1.931	$1.913	$0.473
SJM RENTALS													
Use (Mgal)	141	93	95	93	101	91	98	100	111	126	122	120	1,291
Revenues	$281	$195	$198	$195	$209	$191	$204	$207	$227	$254	$247	$243	$2,650
Avg. $/Mgal	$1.993	$2.092	$2.086	$2.092	$2.069	$2.098	$2.077	$2.072	$2.045	$2.015	$2.023	$2.026	$2.057
HUNINGHAKE, JOHN (APARTMENTS)													
Use (Mgal)	69	149	88	115	114	128	83	79	117	60	79	92	1,173
Revenues	$151	$295	$186	$234	$232	$258	$177	$169	$238	$135	$169	$198	$2,443
Avg. $/Mgal	$2.193	$1.982	$2.109	$2.036	$2.038	$2.012	$2.127	$2.144	$2.032	$2.253	$2.144	$2.155	$2.102

Table II-4 – Existing Water Rates & User Fees: Contract Users

Customer	Meter Size (inch)	Monthly User Charge*	Rates (per Mgal)		
			First 100	Next 400 (500 total)	Over 500
Agrium	3 +	$52.25	$1.86	$0.64	$0.43
Koch	3 +	$52.25	$1.86	$0.64	$0.43

Provisions for unmetered fire hydrants and sprinkler services are included in the current water rate ordinance, which is summarized in Table II-5.

Table II-5 – Existing Unmetered Rates: Fire Hydrants and Sprinklers

Type	Rate
Municipal Fire Hydrants	$65.00
Private Fire Hydrants	$90.00
4-Inch Sprinkler Service	$165.00
6-Inch Sprinkler Service	$240.00
8-Inch Sprinkler Service	$325.00

Rate information for each of the existing customer classes is included, as reference, in the Appendices. The present water rate defines water rates for Residential, Commercial, and Contract customer classes. Should the BPW wish to include water rates for their Institutional customers, it would be at their discretion. The additional rate class does not appear to be warranted at this time. Those designated under the Institutional rate class are currently being billed using the Commercial rate.

The City of Beatrice had experienced a stable growth pattern between 1940 and 1980. The population declined between 1980 and 1990 and for the last 20 years, growth has been flat; refer to Table II-6 below.

Table II-6 - Historical Population Data

YEAR	POPULATION
1940	10,083
1950	11,813
1960	12,132
1970	12,389
1980	12,891
1990	12,354
2000	12,496
2010	12,459

Based upon this information, City staff doesn't feel it's appropriate to project significant population growth. However, the design population for the purposes of this document will be rounded to 12,500.

For purposes of this evaluation, the projected growth rate for each customer classification is shown in Table II-7, *Projected Water Consumption*. The top of Table II-7 shows the current or base usage of water by each class of customer. This data was obtained from Table II-1. Water usage increases have been projected through 2019. No water use increase is anticipated during this planning horizon.

For this report, the 2011-2012 and 2012-2013 FY data serves as a guide to determine rates and allocations. The evaluation will include analysis of how the revenue generated will vary with increased usage.

B. Historical and Projected Water Revenues and Expenses

This rate study was performed with a COS Analysis using the "cash-flow" method. In the "cash-flow" method, depreciation is not shown as an expense. All other expenditures that do require an outlay of cash, such as transfers, capital improvements, and debt service are included.

Table II-8, BPW *Water Fund Income/Expenditure Summary*, provides historical and projected revenues and expenses for 9 years, from 2010 to 2013 (Actual); 2014 to 2015 (Budget), 2016 to 2019 (Projected). The actual revenues come from the values provided by the City staff based on customer class.

The 2010 through 2013 annual budget documents were used as a source for actual and proposed operating expenses with the exception of capital improvements. Capital improvements are based on the projected budgets provided by the City for the water department and distribution system. It is the intent of the City to increase their cumulative cash reserves to over $2.0 million by the end of this document's planning horizon.

Figures II-1 and II-2 provide a summary of the percentage of use and revenue percentages between the 3 user types; Residential, Commercial, and Contract. This data was compiled from FYs 2012 and 2013.

Beatrice Water Rates **Table II-7**
OA Project No. 013-2627 **Projected Water Consumption**

USE (Annual) - Gallons	2013	2014	2015	2016	2017	2018
Residential - Total	369,607,000	369,607,000	369,607,000	369,607,000	369,607,000	369,607,000
Commercial - Total	277,408,000	277,408,000	277,408,000	277,408,000	277,408,000	277,408,000
Contract - Total	643,170,000	643,170,000	643,170,000	643,170,000	643,170,000	643,170,000
TOTAL	**1,290,185,000**	**1,290,185,000**	**1,290,185,000**	**1,290,185,000**	**1,290,185,000**	**1,290,185,000**

METERS						
RESIDENTIAL	4,993	4,993	4,993	4,993	4,993	4,993
COMMERCIAL	633	633	633	633	633	633
CONTRACT	2	2	2	2	2	2
TOTAL	**5,627**	**5,627**	**5,627**	**5,627**	**5,627**	**5,627**

CONSUMPTION BY METERED ACCOUNT (Monthly) - Gallons/Meter						
RESIDENTIAL	6,169	6,169	6,169	6,169	6,169	6,169
COMMERCIAL	36,530	36,530	36,530	36,530	36,530	36,530
CONTRACT	26,798,750	26,798,750	26,798,750	26,798,750	26,798,750	26,798,750
TOTAL	**26,841,449**	**26,841,449**	**26,841,449**	**26,841,449**	**26,841,449**	**26,841,449**

F:\Projects\013-2627\Data\Cost of Service Data\[WaterRateCalculations_2014.xlsx]2

Beatrice Water Rates — **Table II-8**

OA Project No. 013-2627 — **BPW Water Fund Income/Expenditure Summary**

FY Ending: Sept. 2013

Revenue Requirements	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Budget	2015 Budget	2016 Proposed	2017 Proposed	2018 Proposed	2019 Proposed	
Operating Revenue											
User Fees	$1,728,981	$1,969,342	$2,281,472	$2,358,054	$2,559,323	$2,815,255	$3,068,628	$3,283,432	$3,513,273	$3,724,069	
Grant Income	$0	$12,977	$0	$0	$0	$0	$0	$0	$0	$0	
Interest Income	$8,566	$5,534	$7,150								
Merhandising	$27,782	$76,173	$168,724								
Capital In Aid of Construction		$71,209									
Other Income	$31,655	$22,016	$270,866	$0	$0	$0	$0	$0	$0	$0	
TOTAL - Operating Revenue	$1,796,984	$2,157,251	$2,728,212	$2,358,054	$2,559,323	$2,815,255	$3,068,628	$3,283,432	$3,513,273	$3,724,069	
Operating Expenses											
Operation & Maintenance	$841,956	$914,938	$932,972	$953,999	$990,450	$1,002,200	$1,032,266	$1,063,234	$1,095,131	$1,127,985	3.0% Increase
Vehicle & Equipment Expense				$105,332	$119,500	$119,500	$119,500	$119,500	$119,500	$119,500	
Customer Accounting	$135,477	$141,770	$151,147	$129,900	$140,380	$143,585	$147,893	$152,329	$156,899	$161,606	3.0% Increase
Engineering Expense	$16,000	$16,000	$16,000	$0	$0	$0	$0	$0	$0	$0	
Administrative	$358,721	$367,805	$298,390	$58,575	$65,800	$63,750	$65,663	$67,632	$69,661	$71,751	3.0% Increase
Municipal/General	$24,224	$44,334	$52,719	$446,963	$401,500	$412,675	$425,055	$437,807	$450,941	$464,469	3.0% Increase
TOTAL	$1,376,378	$1,484,847	$1,451,228	$1,694,769	$1,717,630	$1,741,710	$1,790,376	$1,840,503	$1,892,133	$1,945,312	3.0% Increase
Other Expenses											
Depreciation	$407,090	$447,804	$484,300	$507,889	$515,000	$530,000	$530,000	$530,000	$530,000	$530,000	0.0% Increase
Interest Expense	$52,877	$42,579	$32,577	$35,732	$18,639	$17,970	$17,970	$17,970	$17,970	$17,970	
Ammortization	$1,376	$1,376	$1,582	$29,303							
Municipal Services/Misc	$0	$0	$0	$44,668	$45,250	$46,250	$46,250	$46,250	$46,250	$46,250	
Transfer to Other Depts.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TOTAL OTHER EXPENSES	$461,343	$491,759	$518,459	$617,592	$578,889	$594,220	$594,220	$594,220	$594,220	$594,220	
TOTAL EXPENSES	$1,837,721	$1,976,606	$1,969,687	$2,312,361	$2,296,519	$2,335,930	$2,384,596	$2,434,723	$2,486,353	$2,539,532	
Bond & Financial											
Bond Series 2013	$0	$0	$0	$0	$63,000	$61,250	$61,250	$61,250	$61,250	$61,250	
Bond Series 2009				$46,230	$0	$0	$0	$0	$0	$0	
Bond Series 2011	$0	$0	$0	$35,781	$50,220	$50,220	$50,220	$50,220	$50,220	$50,220	
Other (Two New Wells)	$0	$0	$0	$0	$0	$0	$60,000	$60,000	$60,000	$60,000	
TOTAL	$0	$0	$0	$82,011	$113,220	$111,470	$171,470	$171,470	$171,470	$171,470	
Capital Expenditures							$872,700	$667,000	$868,000	$800,000	
Distribution	$154,017	$53,960	$70,765	$0	$0	$0	$0	$0	$0	$0	
Distribution	$127,817	$119,370	$191,585	$0	$0	$0	$0	$0	$0	$0	
Distribution		$20,657	$319,514				$0	$0	$0	$0	
Wells or Other Distribution	$0	$130,191	$16,228	$50,211	$46,700	$21,700	$0	$350,000	$0	$350,000	
Valve Replacement	$38,788	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Meters	$0	$52,694	$0	$53,837	$67,000	$115,000	$0	$0	$0	$0	3.0% Increase
Tools & Equipment			$36,548	$19,896	$22,800	$23,000					
Transportation Equipment	$0	$25,859	$0	$0	$0	$35,000	$0	$0	$0	$0	
Buildings, Office Equipment & Studies	$0	$0	$45,890	$0	$50,000	$0	$0	$0	$0	$0	
Work Orders				$0							
Work in Process	$0	$0	$0	$329,544	$481,000	$563,000	$0	$0	$0	$0	3.0% Increase
TOTAL CAPITAL EXPENDITURES	$320,622	$402,731	$680,530	$453,488	$667,500	$757,700	$872,700	$1,017,000	$868,000	$1,150,000	
TOTAL EXPENDITURES	$320,622	$402,731	$680,530	$535,499	$780,720	$869,170	$1,044,170	$1,188,470	$1,039,470	$1,321,470	
TOTAL REVENUE REQUIREMENT	$2,158,343	$2,379,337	$2,650,217	$2,847,860	$3,077,239	$3,205,100	$3,428,766	$3,623,193	$3,525,823	$3,861,002	
TOTAL REVENUE	$1,796,984	$2,157,251	$2,728,212	$2,358,054	$2,559,323	$2,815,255	$3,068,628	$3,283,432	$3,513,273	$3,724,069	
Deficiency	-$361,359	-$222,086	$77,995	-$489,806	-$517,916	-$389,845	-$360,138	-$339,760	-$12,550	-$136,933	
Construction Bond Deduct											
Depreciation	$407,090	$447,804	$484,300	$507,889	$515,000	$530,000	$530,000	$530,000	$530,000	$530,000	
Difference w/out Depreciation	$45,731	$225,718	$562,295	$18,083	-$2,916	$140,155	$169,862	$190,240	$517,450	$393,067	
CUMLATIVE CASH RESERVE				$752,000	$749,084	$889,239	$1,059,101	$1,249,341	$1,766,791	$2,159,858	

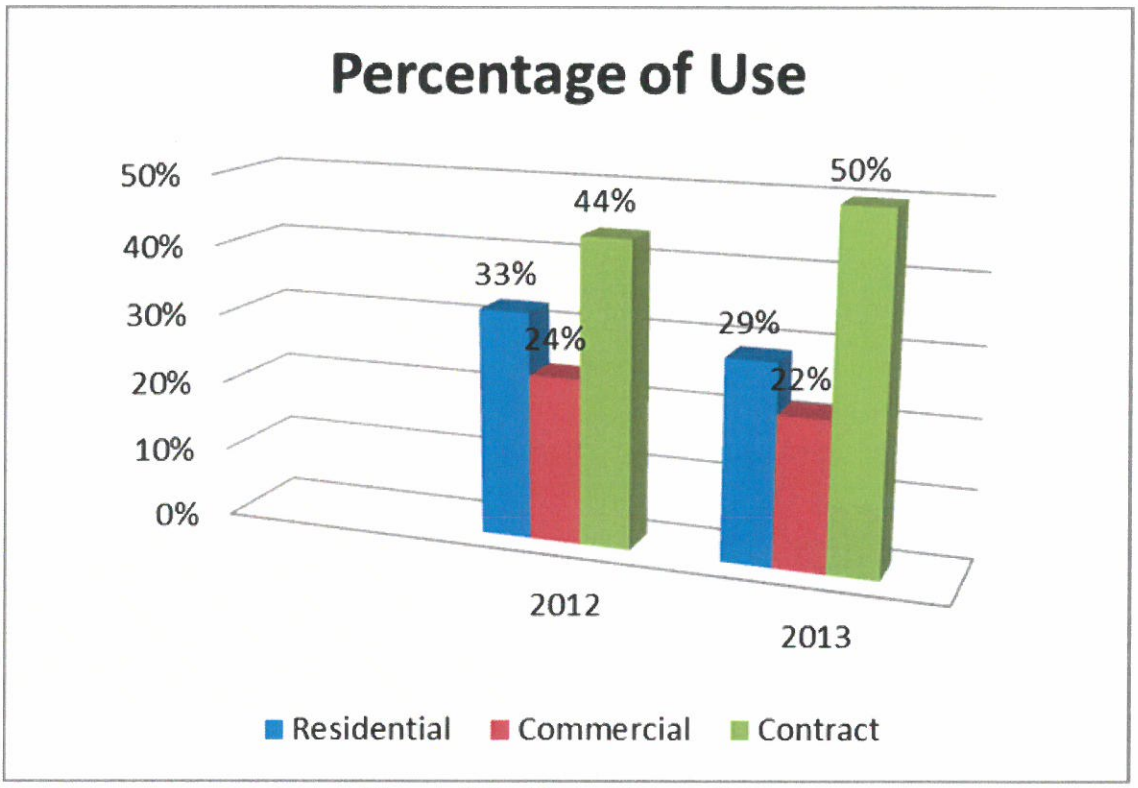

Figure II-1: Percentage of Use

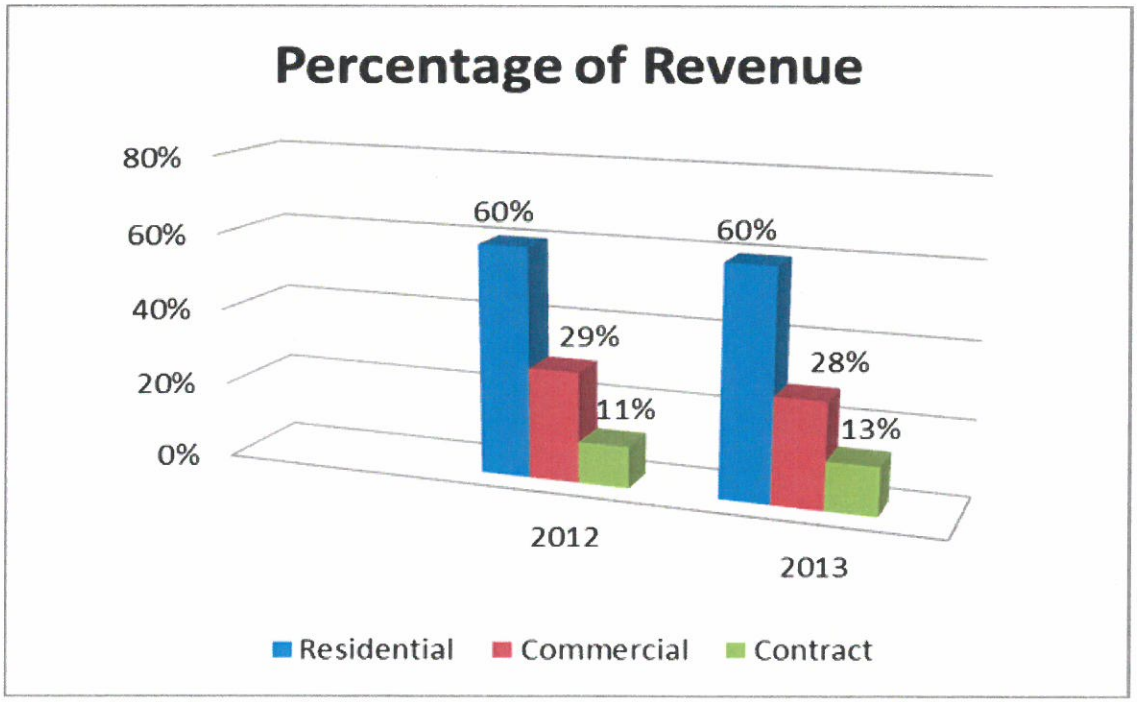

Figure II-2: Percentage of Revenue

C. Water Cost Allocation

Table II-9 presents several factors to determine cost allocations. The primary factors are water consumption on average days, maximum days and peak hours. The table shows how these factors affect the residential and commercial users. As previously noted, it was completed based upon software developed by the AWWA. Referring to the Appendices, one will note 3 separate steps are necessary to complete the allocation of costs to the respective customer classes:

1. Functionalization: Costs are categorized by function such as pumping, transmission, treatment, storage, distribution and administration.

2. Classification: The next step is to classify the type of cost - normally "Customer," "Capacity" and "Usage." Customer costs are those, such as the cost of meters and billing, that vary according to the number of customers. Capacity or demand costs are generally those associated with the physical plant and facilities needed to meet the peak system demand and most of the O&M costs. Usage costs are those which generally vary in proportion to the amount of water sold, (e.g., pumping and treatment costs).

3. Assignment: The final step is to assign the costs to the individual customer classes. This determines the cost of the service. Rates are then designed which recover that cost. These steps are shown in detail in the Appendices.

D. Rate Increase History

Before discussing the potential increases in water service rates, it is important to identify when rates were changed last. By adjusting the rates without an identified cause, customer complaints may increase.

Residential rates have been adjusted each year since 2008. It is recommended that the BPW continue to provide incremental rate adjustments to build cash reserves and to lessen the impact of infrequent rate increases.

Beatrice Water Rates
OA Project No. 013-2627

Table II-9 **Weighted Water Factors**

Capacity Factors by Customer Class	Max. Day	Max. Hour
Residential	2.50	1.60
Commercial	2.50	1.60
Contract	2.50	1.60

From 2012 Study*

Avg Day	2.0 mgd
Peak Day	5.0 mgd
Peak Hour	8.0 mgd

*Note does not include 1.7 MGD of raw water (Koch and Agrium usage - Contract Use)

System Wide Factors	Average	Maximum	Avg/Max
Avg Day or Max Day (MGD)	2	5	40.00%
Avg Day or Max Hour (MGD)	2	8	25.00%

	Allocations
Avg. Day	25.00%
Max. Day	37.50%
Max. Hour	37.50%
	100.00%

Water Usage (gallons)

	Actual	Projected	Projected	Projected	Projected	Projected
Customer Class	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Residential	369,607,000	369,607,000	369,607,000	369,607,000	369,607,000	369,607,000
Commercial	277,408,000	277,408,000	277,408,000	277,408,000	277,408,000	277,408,000
Contract	643,170,000	643,170,000	643,170,000	643,170,000	643,170,000	643,170,000
Total (gal)	1,290,185,000	1,290,185,000	1,290,185,000	1,290,185,000	1,290,185,000	1,290,185,000
Total (Mgal)	1,290,185	1,290,185	1,290,185	1,290,185	1,290,185	1,290,185
Percentage of Use						
Residential	28.65%	28.65%	28.65%	28.65%	28.65%	28.65%
Commercial	21.50%	21.50%	21.50%	21.50%	21.50%	21.50%
Contract	49.85%	49.85%	49.85%	49.85%	49.85%	49.85%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Max. Day Peaking Factor						
Residential	924,017,500	924,017,500	924,017,500	924,017,500	924,017,500	924,017,500
Commercial	693,520,000	693,520,000	693,520,000	693,520,000	693,520,000	693,520,000
Contract	1,607,925,000	1,607,925,000	1,607,925,000	1,607,925,000	1,607,925,000	1,607,925,000
Total (gal)	3,225,462,500	3,225,462,500	3,225,462,500	3,225,462,500	3,225,462,500	3,225,462,500
Total (Mgal)	3,225,463	3,225,463	3,225,463	3,225,463	3,225,463	3,225,463
Weighting by Percent by Customer Class						
Residential	28.65%	28.65%	28.65%	28.65%	28.65%	28.65%
Commercial	21.50%	21.50%	21.50%	21.50%	21.50%	21.50%
Contract	49.85%	49.85%	49.85%	49.85%	49.85%	49.85%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Max. Hour Peaking Factor						
Residential	591,371,200	591,371,200	591,371,200	591,371,200	591,371,200	591,371,200
Commercial	443,852,800	443,852,800	443,852,800	443,852,800	443,852,800	443,852,800
Contract	1,029,072,000	1,029,072,000	1,029,072,000	1,029,072,000	1,029,072,000	1,029,072,000
Total (Mgal)	2,064,296	2,064,296	2,064,296	2,064,296	2,064,296	2,064,296
Weighting by Percent by Customer Class						
Residential	28.65%	28.65%	28.65%	28.65%	28.65%	28.65%
Commercial	21.50%	21.50%	21.50%	21.50%	21.50%	21.50%
Contract	49.85%	49.85%	49.85%	49.85%	49.85%	49.85%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

E. Water Revenue Requirements and Rate Design

For Beatrice the COS allocation requires a separate rate structure for the residential, commercial, and contract users. A detailed printout of the rate modeling process for the BPW water system is included in the Appendices. Rate definitions are as follows:

1. Residential: Single family dwellings.

2. Commercial: Multifamily dwellings, nonresidential or nonindustrial business enterprises whose sole purpose is the interchange of goods or commodities and/or services, as well as churches, schools, hospitals, facilities for the care or confinement of disabled persons or inmates, and as the water supply for other distribution systems such as for the Village of Filley or for the NRD.

3. Contract: Manufacturing or processing establishments.

Exhibit 9 in the Appendices shows a detailed breakdown of costs and how they are allocated.

Although the changes are shown to 1 decimal place, no report can be that accurate without extensive (and probably expensive) load research data. Accordingly, it is suggested that the results be taken as guidelines for change in the present rates. Future rate studies can be used to further confirm the magnitude and direction of the changes.

For this study, no allocations were made to fire protection. Fire protection needs are met by having the customer provide and install the service. Therefore, no major costs are incurred by the City.

Table II-10 summarizes the proposed rates for the water department. These are changes which may affect a given bill substantially.

Table II-10 – Proposed Water Rates

Rate Class	Meter Size (in)	Step 1 – 2015 Monthly Charge*	Step 1 – 2015 Rate per Mgal	Step 2 - 2016 Monthly Charge*	Step 2 - 2016 Rate per Mgal
Residential	5/8, 3/4	$15.00	$2.13	$16.25	$2.33
Commercial	5/8, 3/4	$16.00	$2.13	$17.50	$2.33
	1	$18.00	$2.13	$19.50	$2.33
	1 ¼, 1 ½	$27.00	$2.13	$29.00	$2.33
	2	$40.00	$2.13	$43.00	$2.33
	3+	$70.00	$2.13	$75.00	$2.33

Rate Class	Meter Size (in)	Step 3 – 2017 Monthly Charge*	Step 3 – 2017 Rate per Mgal	Step 4 - 2018 Monthly Charge*	Step 4 - 2018 Rate per Mgal
Residential	5/8, 3/4	$17.55	$2.47	$18.65	$2.65
Commercial	5/8, 3/4	$19.00	$2.47	$20.00	$2.65
	1	$21.00	$2.47	$22.25	$2.65
	1 ¼, 1 ½	$31.50	$2.47	$33.50	$2.65
	2	$46.00	$2.47	$49.00	$2.65
	3+	$80.00	$2.47	$85.00	$2.65

Rate Class	Meter Size (in)	Step 5 – 2019 Monthly Charge*	Step 5 – 2019 Rate per Mgal		
Residential	5/8, 3/4	$19.50	$2.81		
Commercial	5/8, 3/4	$21.00	$2.81		
	1	$23.00	$2.81		
	1 ¼, 1 ½	$35.00	$2.81		
	2	$52.50	$2.81		
	3+	$90.00	$2.81		

Contract Rate Class	Monthly Charge*	Rate per Mgal		
		First 100	100 to 400	500+
Step 1-2015	$70.00	$2.13	$0.75	$0.55
Step 2-2016	$75.00	$2.33	$0.80	$0.60
Step 3-2017	$80.00	$2.47	$0.85	$0.65
Step 4-2018	$85.00	$2.65	$0.92	$0.70
Step 5-2019	$90.00	$2.81	$1.00	$0.77

*Note – The Monthly Charge Includes a $2 Residential and $3 Commercial/Contract Infrastructure Improvement Charge

At this time, the unmetered rates included in the current rate ordinance, and as summarized in a previous table, were not adjusted, but can be modified at the City's discretion.

Table II-11 shows a rate comparison based on average usage. The reference year is 2012-2013. Rates shown are the current rate structure and the proposed rates for average water use in each of the proposed rate classes. Due to the varied nature of the Commercial rates, the average bill was calculated assuming that all meter sizes were 5/8-inch or 3/4-inch.

Table II-11 – Proposed Water Rate Impact per User Class

Rate Class	Avg Use ('12-'13) MGal	Existing Avg Monthly Bill	Proposed Average Monthly Bill				
			Step 1 2015	Step 2 2016	Step 3 2017	Step 4 2018	Step 5 2019
Residential	6.2	$22.30	$28.13	$30.61	$32.77	$34.98	$36.82
Commercial	36.4	$81.34	$101.48	$110.71	$117.80	$126.00	$133.37
Contract	26,841	$12,023	$15,047	$16,407	$17,761	$19,127	$21,021

The minimum charges recognize that there is a defined cost to making the service available, while including actual usage. For instance, the meter, the cost of reading the meter and preparing the bill, and portions of the well field and distribution system are there to provide the service at the turn of the faucet, even if no one is home for the entire month. The AWWA model attempts to identify those costs and bill for them separately in the customer charge. The actual water usage is billed at the usage rate, so the greater the use, the higher the bill.

Tables II-12a-c provide a comparison of current and proposed rate increases for water usage for Residential (Table II-12a), Commercial (Table II-12b), and Contract (Table II-12c) users. Values in Table II-12b were calculated using meter sizes were 5/8-inch or 3/4-inch in diameter for the Commercial rate class.

As previously noted, the purpose of utility rates is two-fold:

a. Recover sufficient revenue from the customers to adequately operate and maintain the system; and

b. Recover the cost in proportion to the cost of providing the service, and signal the consumer regarding that cost.

Although this rate provides the correct signals, cautionary measures require that the adjustment must be fully explained in advance so that the users are informed beforehand and are not "shocked" when the first billing arrives.

It is important to note that the first year of the rates as suggested should be considered "interim." It is impossible to calculate the exact usage in the rate block as the consumers must decide how much to water the grass at the higher rate. The usages, revenues, and rates should be reviewed after the first year to determine what, if any, changes need to be made. If many consumers minimize their yard watering, there could be a decrease in variable costs.

Beatrice Water Rates
OA Project 013-2627
Table II-12a

Residential Water Rate Comparisons

Existing		Proposed - Step 1		Proposed - Step 2	
User Charge	$12.75 / month	User Charge	$15.00 / month	User Charge	$16.25 / month
Usage	$1.86 / Mgal	Usage	$2.13 / Mgal	Usage	$2.33 / Mgal
Proposed - Step 3		**Proposed - Step 4**		**Proposed - Step 5**	
User Charge	$17.55 / month	User Charge	$18.65 / month	User Charge	$19.50 / month
Usage	$2.47 / Mgal	Usage	$2.65 / Mgal	Usage	$2.81 / Mgal

Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)	Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)
1	$14.61	$17.13	$18.58	$20.02	$21.30	$22.31	26	$61.11	$70.38	$76.83	$81.77	$87.55	$92.56
2	$16.47	$19.26	$20.91	$22.49	$23.95	$25.12	27	$62.97	$72.51	$79.16	$84.24	$90.20	$95.37
3	$18.33	$21.39	$23.24	$24.96	$26.60	$27.93	28	$64.83	$74.64	$81.49	$86.71	$92.85	$98.18
4	$20.19	$23.52	$25.57	$27.43	$29.25	$30.74	29	$66.69	$76.77	$83.82	$89.18	$95.50	$100.99
5	$22.05	$25.65	$27.90	$29.90	$31.90	$33.55	30	$68.55	$78.90	$86.15	$91.65	$98.15	$103.80
6	$23.91	$27.78	$30.23	$32.37	$34.55	$36.36	31	$70.41	$81.03	$88.48	$94.12	$100.80	$106.61
7	$25.77	$29.91	$32.56	$34.84	$37.20	$39.17	32	$72.27	$83.16	$90.81	$96.59	$103.45	$109.42
8	$27.63	$32.04	$34.89	$37.31	$39.85	$41.98	33	$74.13	$85.29	$93.14	$99.06	$106.10	$112.23
9	$29.49	$34.17	$37.22	$39.78	$42.50	$44.79	34	$75.99	$87.42	$95.47	$101.53	$108.75	$115.04
10	$31.35	$36.30	$39.55	$42.25	$45.15	$47.60	35	$77.85	$89.55	$97.80	$104.00	$111.40	$117.85
11	$33.21	$38.43	$41.88	$44.72	$47.80	$50.41	36	$79.71	$91.68	$100.13	$106.47	$114.05	$120.66
12	$35.07	$40.56	$44.21	$47.19	$50.45	$53.22	37	$81.57	$93.81	$102.46	$108.94	$116.70	$123.47
13	$36.93	$42.69	$46.54	$49.66	$53.10	$56.03	38	$83.43	$95.94	$104.79	$111.41	$119.35	$126.28
14	$38.79	$44.82	$48.87	$52.13	$55.75	$58.84	39	$85.29	$98.07	$107.12	$113.88	$122.00	$129.09
15	$40.65	$46.95	$51.20	$54.60	$58.40	$61.65	40	$87.15	$100.20	$109.45	$116.35	$124.65	$131.90
16	$42.51	$49.08	$53.53	$57.07	$61.05	$64.46	41	$89.01	$102.33	$111.78	$118.82	$127.30	$134.71
17	$44.37	$51.21	$55.86	$59.54	$63.70	$67.27	42	$90.87	$104.46	$114.11	$121.29	$129.95	$137.52
18	$46.23	$53.34	$58.19	$62.01	$66.35	$70.08	43	$92.73	$106.59	$116.44	$123.76	$132.60	$140.33
19	$48.09	$55.47	$60.52	$64.48	$69.00	$72.89	44	$94.59	$108.72	$118.77	$126.23	$135.25	$143.14
20	$49.95	$57.60	$62.85	$66.95	$71.65	$75.70	45	$96.45	$110.85	$121.10	$128.70	$137.90	$145.95
21	$51.81	$59.73	$65.18	$69.42	$74.30	$78.51	46	$98.31	$112.98	$123.43	$131.17	$140.55	$148.76
22	$53.67	$61.86	$67.51	$71.89	$76.95	$81.32	47	$100.17	$115.11	$125.76	$133.64	$143.20	$151.57
23	$55.53	$63.99	$69.84	$74.36	$79.60	$84.13	48	$102.03	$117.24	$128.09	$136.11	$145.85	$154.38
24	$57.39	$66.12	$72.17	$76.83	$82.25	$86.94	49	$103.89	$119.37	$130.42	$138.58	$148.50	$157.19
25	$59.25	$68.25	$74.50	$79.30	$84.90	$89.75	50	$105.75	$121.50	$132.75	$141.05	$151.15	$160.00

Note: Average Residential water use = 6.6 Mgal (FY 2013)

Beatrice Water Rates
OA Project 013-2627
Table II-12b

Commercial Water Rate Comparisons (5/8" or 3/4" meter size only)

Existing		Proposed - Step 1		Proposed - Step 2	
User Charge	$13.75 / month	User Charge	$16.00 / month	User Charge	$17.50 / month
Usage	$1.86 / Mgal	Usage	$2.13 / Mgal	Usage	$2.33 / Mgal
Proposed - Step 3		**Proposed - Step 4**		**Proposed - Step 5**	
User Charge	$19.00 / month	User Charge	$20.00 / month	User Charge	$21.00 / month
Usage	$2.47 / Mgal	Usage	$2.65 / Mgal	Usage	$2.81 / Mgal

Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)	Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)
1	$15.61	$18.13	$19.83	$21.47	$22.65	$23.81	31	$71.41	$82.03	$89.73	$95.57	$102.15	$108.11
2	$17.47	$20.26	$22.16	$23.94	$25.30	$26.62	32	$73.27	$84.16	$92.06	$98.04	$104.80	$110.92
3	$19.33	$22.39	$24.49	$26.41	$27.95	$29.43	33	$75.13	$86.29	$94.39	$100.51	$107.45	$113.73
4	$21.19	$24.52	$26.82	$28.88	$30.60	$32.24	34	$76.99	$88.42	$96.72	$102.98	$110.10	$116.54
5	$23.05	$26.65	$29.15	$31.35	$33.25	$35.05	35	$78.85	$90.55	$99.05	$105.45	$112.75	$119.35
6	$24.91	$28.78	$31.48	$33.82	$35.90	$37.86	36	$80.71	$92.68	$101.38	$107.92	$115.40	$122.16
7	$26.77	$30.91	$33.81	$36.29	$38.55	$40.67	37	$82.57	$94.81	$103.71	$110.39	$118.05	$124.97
8	$28.63	$33.04	$36.14	$38.76	$41.20	$43.48	38	$84.43	$96.94	$106.04	$112.86	$120.70	$127.78
9	$30.49	$35.17	$38.47	$41.23	$43.85	$46.29	39	$86.29	$99.07	$108.37	$115.33	$123.35	$130.59
10	$32.35	$37.30	$40.80	$43.70	$46.50	$49.10	40	$88.15	$101.20	$110.70	$117.80	$126.00	$133.40
11	$34.21	$39.43	$43.13	$46.17	$49.15	$51.91	41	$90.01	$103.33	$113.03	$120.27	$128.65	$136.21
12	$36.07	$41.56	$45.46	$48.64	$51.80	$54.72	42	$91.87	$105.46	$115.36	$122.74	$131.30	$139.02
13	$37.93	$43.69	$47.79	$51.11	$54.45	$57.53	43	$93.73	$107.59	$117.69	$125.21	$133.95	$141.83
14	$39.79	$45.82	$50.12	$53.58	$57.10	$60.34	44	$95.59	$109.72	$120.02	$127.68	$136.60	$144.64
15	$41.65	$47.95	$52.45	$56.05	$59.75	$63.15	45	$97.45	$111.85	$122.35	$130.15	$139.25	$147.45
16	$43.51	$50.08	$54.78	$58.52	$62.40	$65.96	46	$99.31	$113.98	$124.68	$132.62	$141.90	$150.26
17	$45.37	$52.21	$57.11	$60.99	$65.05	$68.77	47	$101.17	$116.11	$127.01	$135.09	$144.55	$153.07
18	$47.23	$54.34	$59.44	$63.46	$67.70	$71.58	48	$103.03	$118.24	$129.34	$137.56	$147.20	$155.88
19	$49.09	$56.47	$61.77	$65.93	$70.35	$74.39	49	$104.89	$120.37	$131.67	$140.03	$149.85	$158.69
20	$50.95	$58.60	$64.10	$68.40	$73.00	$77.20	50	$106.75	$122.50	$134.00	$142.50	$152.50	$161.50
21	$52.81	$60.73	$66.43	$70.87	$75.65	$80.01	51	$108.61	$124.63	$136.33	$144.97	$155.15	$164.31
22	$54.67	$62.86	$68.76	$73.34	$78.30	$82.82	52	$110.47	$126.76	$138.66	$147.44	$157.80	$167.12
23	$56.53	$64.99	$71.09	$75.81	$80.95	$85.63	53	$112.33	$128.89	$140.99	$149.91	$160.45	$169.93
24	$58.39	$67.12	$73.42	$78.28	$83.60	$88.44	54	$114.19	$131.02	$143.32	$152.38	$163.10	$172.74
25	$60.25	$69.25	$75.75	$80.75	$86.25	$91.25	55	$116.05	$133.15	$145.65	$154.85	$165.75	$175.55
26	$62.11	$71.38	$78.08	$83.22	$88.90	$94.06	56	$117.91	$135.28	$147.98	$157.32	$168.40	$178.36
27	$63.97	$73.51	$80.41	$85.69	$91.55	$96.87	57	$119.77	$137.41	$150.31	$159.79	$171.05	$181.17
28	$65.83	$75.64	$82.74	$88.16	$94.20	$99.68	58	$121.63	$139.54	$152.64	$162.26	$173.70	$183.98
29	$67.69	$77.77	$85.07	$90.63	$96.85	$102.49	59	$123.49	$141.67	$154.97	$164.73	$176.35	$186.79
30	$69.55	$79.90	$87.40	$93.10	$99.50	$105.30	60	$125.35	$143.80	$157.30	$167.20	$179.00	$189.60

Beatrice Water Rates
OA Project 013-2627
Table II-12c Contract Water Rate Comparisons

Existing		Proposed					Proposed				
			Monthly					Monthly			
User Charge	$52.25	Step	Charge	First 100	100 to 400	500+	Step	Charge	First 100	100 to 400	500+
Usage		Step 1-2015	$70.00	$2.13	$0.75	$0.55	Step 4-2018	$85.00	$2.65	$0.92	$0.70
1st 100 Mgal	$1.86	Step 2-2016	$75.00	$2.33	$0.80	$0.60	Step 5-2019	$90.00	$2.81	$1.00	$0.77
100-500 Mgal	$0.64	Step 3-2017	$80.00	$2.47	$0.85	$0.65					
500+ Mgal	$0.43										

Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)	Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)
1,000	$709.25	$858	$928	$992	$1,068	$1,156	26,000	$11,459.25	$14,608	$15,928	$17,242	$18,568	$20,406
2,000	$1,139.25	$1,408	$1,528	$1,642	$1,768	$1,926	27,000	$11,889.25	$15,158	$16,528	$17,892	$19,268	$21,176
3,000	$1,569.25	$1,958	$2,128	$2,292	$2,468	$2,696	28,000	$12,319.25	$15,708	$17,128	$18,542	$19,968	$21,946
4,000	$1,999.25	$2,508	$2,728	$2,942	$3,168	$3,466	29,000	$12,749.25	$16,258	$17,728	$19,192	$20,668	$22,716
5,000	$2,429.25	$3,058	$3,328	$3,592	$3,868	$4,236	30,000	$13,179.25	$16,808	$18,328	$19,842	$21,368	$23,486
6,000	$2,859.25	$3,608	$3,928	$4,242	$4,568	$5,006	31,000	$13,609.25	$17,358	$18,928	$20,492	$22,068	$24,256
7,000	$3,289.25	$4,158	$4,528	$4,892	$5,268	$5,776	32,000	$14,039.25	$17,908	$19,528	$21,142	$22,768	$25,026
8,000	$3,719.25	$4,708	$5,128	$5,542	$5,968	$6,546	33,000	$14,469.25	$18,458	$20,128	$21,792	$23,468	$25,796
9,000	$4,149.25	$5,258	$5,728	$6,192	$6,668	$7,316	34,000	$14,899.25	$19,008	$20,728	$22,442	$24,168	$26,566
10,000	$4,579.25	$5,808	$6,328	$6,842	$7,368	$8,086	35,000	$15,329.25	$19,558	$21,328	$23,092	$24,868	$27,336
11,000	$5,009.25	$6,358	$6,928	$7,492	$8,068	$8,856	36,000	$15,759.25	$20,108	$21,928	$23,742	$25,568	$28,106
12,000	$5,439.25	$6,908	$7,528	$8,142	$8,768	$9,626	37,000	$16,189.25	$20,658	$22,528	$24,392	$26,268	$28,876
13,000	$5,869.25	$7,458	$8,128	$8,792	$9,468	$10,396	38,000	$16,619.25	$21,208	$23,128	$25,042	$26,968	$29,646
14,000	$6,299.25	$8,008	$8,728	$9,442	$10,168	$11,166	39,000	$17,049.25	$21,758	$23,728	$25,692	$27,668	$30,416
15,000	$6,729.25	$8,558	$9,328	$10,092	$10,868	$11,936	40,000	$17,479.25	$22,308	$24,328	$26,342	$28,368	$31,186
16,000	$7,159.25	$9,108	$9,928	$10,742	$11,568	$12,706	41,000	$17,909.25	$22,858	$24,928	$26,992	$29,068	$31,956
17,000	$7,589.25	$9,658	$10,528	$11,392	$12,268	$13,476	42,000	$18,339.25	$23,408	$25,528	$27,642	$29,768	$32,726
18,000	$8,019.25	$10,208	$11,128	$12,042	$12,968	$14,246	43,000	$18,769.25	$23,958	$26,128	$28,292	$30,468	$33,496
19,000	$8,449.25	$10,758	$11,728	$12,692	$13,668	$15,016	44,000	$19,199.25	$24,508	$26,728	$28,942	$31,168	$34,266
20,000	$8,879.25	$11,308	$12,328	$13,342	$14,368	$15,786	45,000	$19,629.25	$25,058	$27,328	$29,592	$31,868	$35,036
21,000	$9,309.25	$11,858	$12,928	$13,992	$15,068	$16,556	46,000	$20,059.25	$25,608	$27,928	$30,242	$32,568	$35,806
22,000	$9,739.25	$12,408	$13,528	$14,642	$15,768	$17,326	47,000	$20,489.25	$26,158	$28,528	$30,892	$33,268	$36,576
23,000	$10,169.25	$12,958	$14,128	$15,292	$16,468	$18,096	48,000	$20,919.25	$26,708	$29,128	$31,542	$33,968	$37,346
24,000	$10,599.25	$13,508	$14,728	$15,942	$17,168	$18,866	49,000	$21,349.25	$27,258	$29,728	$32,192	$34,668	$38,116
25,000	$11,029.25	$14,058	$15,328	$16,592	$17,868	$19,636	50,000	$21,779.25	$27,808	$30,328	$32,842	$35,368	$38,886

Minimum Water

Usage (Mgal)	2011-2012	2012-2013
Koch/Agrium	24,966	26,799

F. Water Rate Comparisons

As noted earlier in the study, rate comparisons with other utilities are a necessary part of any study, but they offer little or no support for the accuracy or sufficiency of any rate. They might, however, be of most interest to potential customers or new businesses, but that cannot be an overriding factor in the design and adoption of rates.

A water rate comparison probably provides strong indications of the cost of water supply to the cities in the comparison. If it is relatively easy and inexpensive to obtain water, a given town may well have rates which are substantially below another municipality which does not have the same advantage.

Table II-13 is a comparison of retail rates with other area utilities. In comparison, York, Waverly, Seward, Norfolk, and Columbus are good examples of systems with a comparable water supply.

Table II-13 – Water Rate Comparison

Monthly Wastewater Charges for Cities in Nebraska	Residential with 3/4 Inch Meter using 11 units of water (8,228 gal.)
Beatrice, Nebraska	
Current	$28.06 (calculated)
Proposed – Step 1	$32.53 (calculated)
Proposed – Step 2	$35.42 (calculated)
Proposed – Step 3	$37.87 (calculated)
Proposed – Step 4	$40.45 (calculated)
Proposed – Step 5	$42.62 (calculated)
Bennett, Nebraska	$74.58
Columbus, Nebraska	$18.13
Hickman, Nebraska	$34.03
Lincoln, Nebraska	$21.03
Nebraska City, Nebraska	$28.56
Norfolk, Nebraska	$18.80
Rural Water District #1	$46.75
Seward, Nebraska	$48.70
Waverly, Nebraska	$23.92
York, Nebraska	$35.00

The information displayed in Table II-13, with the exception of Columbus and Norfolk, was obtained from the City of Lincoln (http://www.lincoln.ne.gov/City/pworks/water/customer/rates.htm) , and is current as of July 2012. Information from Columbus and Norfolk was obtained from each respective City's website.

SECTION III – MUNICIPAL SEWER RATES

A. Summary of Findings

This review includes an assessment of the historic and projected revenues and expenses in the sewer department. The results of the historic revenues are seen in Table III-1, which summarizes the sewer revenues in Beatrice for FY 2012 and 2013. For additional data, refer to the Appendices. There are 2 current classes of sewer users in Beatrice; Residential and Commercial. At this time, no industrial sewage users are classified in the system. Information on the top 15 sewage generators is contained in the Appendices.

B. Historic Sales

Historical sales are provided in Table III-1. Residential sewer usage is based, for billing purposes, upon the water used during the same month, except the months of April thru November. These months are based upon the average water consumption during the winter months of December thru March. Winter usage is used to avoid the irrigation or lawn water demand which is presumed not to reenter the wastewater system. Commercial sewer usage is based on actual water used. Adjustments can be made where high lawn watering occurs during the summer.

Although existing ordinances do not provide for an Industrial rate which includes assessments for BOD and Suspended Solids (SS), though further consideration of such a rate may be warranted.

C. Rate Increase History

As discussed previously, it is important to keep present when rates were last modified. The sewer rates are assessed differently than are the water rates. A flat rate is assessed per connection, with a set cost based on water use. The only difference between the two current rate classes, Residential and Commercial, is that the Residential customers are billed based on water usage from December through March. Commercial customers are billed based on monthly usage.

Sewer rates have been changed on a more frequent basis since the last rate study, completed in 2008, which has been approximately every year or every other year.

By increasing the average monthly rate revenue in this manner, and extending to the year 2019, it appears that adequate revenues and the desired cash reserve would be generated, based on a constant or historical wastewater load.

D. Projected Revenues Requirements

Table III-2 shows the historical (2010 to 2012), budgeted (2013 to 2014), and proposed (2015 to 2019) expenditures determined for the sewer system. The projections for 2014 are used as a test year to determine revenue requirements. Currently, there are no plans for large capital expenditures for the rate study planning horizon.

Beatrice Sewer Rates
OA Project No. **013-2627**

Table III-1 **General Classifications of Customers**

Period	2012 to				2013 Fiscal Year								
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Totals/Avg
Residential													
Users	4,961	4,944	4,933	4,912	4,917	4,929	4,946	4,930	4,955	4,967	4,945	4,967	4,942
Use (Mgal)	19,304	19,324	19,285	19,308	19,209	19,133	18,945	18,796	18,763	18,543	18,507	18,410	227,526
Revenues	$ 91,085	$ 90,946	$ 90,752	$ 90,577	$ 90,430	$ 90,403	$ 90,302	$ 89,733	$ 89,929	$ 89,611	$ 89,306	$ 89,342	$1,082,416
Avg. Use (Mgal)	3.89	3.91	3.91	3.93	3.91	3.88	3.83	3.81	3.79	3.73	3.74	3.71	3.84
Avg. Revenue ($/User)	$ 18.36	$ 18.40	$ 18.40	$ 18.44	$ 18.39	$ 18.34	$ 18.26	$ 18.20	$ 18.15	$ 18.04	$ 18.06	$ 17.99	$18.25
Commercial													
Users	561	561	559	554	557	556	556	560	561	557	557	560	558
Use (Mgal)	18,477	15,239	12,912	13,538	14,689	14,257	14,231	15,480	16,982	23,237	22,211	20,429	201,682
Revenues	$ 43,359	$ 36,934	$ 32,217	$ 33,162	$ 35,786	$ 34,903	$ 34,857	$ 37,417	$ 40,462	$ 53,071	$ 50,973	$ 47,406	$480,547
Avg. Use (Mgal)	32.94	27.16	23.10	24.44	26.37	25.64	25.60	27.64	30.27	41.72	39.88	36.48	30.10
Avg. Revenue ($/User)	$ 77.29	$ 65.84	$ 57.63	$ 59.86	$ 64.25	$ 62.78	$ 62.69	$ 66.82	$ 72.12	$ 95.28	$ 91.51	$ 84.65	$71.73
TOTAL													
Users	5,522	5,505	5,492	5,466	5,474	5,485	5,502	5,490	5,516	5,524	5,502	5,527	5,500
Use (Mgal)	37,781	34,563	32,197	32,846	33,898	33,390	33,176	34,276	35,745	41,780	40,718	38,839	429,208
Revenues	$134,444	$127,880	$122,969	$123,739	$126,216	$125,306	$125,159	$127,150	$130,391	$142,682	$140,279	$136,748	$1,562,963
Avg. Use (Mgal)	6.84	6.28	5.86	6.01	6.19	6.09	6.03	6.24	6.48	7.56	7.40	7.03	35,767
Avg. Revenue	$24.35	$23.23	$22.39	$22.64	$23.06	$22.85	$22.75	$23.16	$23.64	$25.83	$25.50	$24.74	$130,246.92

Period	2011 to				2012 Fiscal Year								
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Totals/Avg
Residential													
Users	4,942	4,942	4,923	4,907	4,900	4,909	4,899	4,930	4,921	4,948	4,966	4,978	4,930
Use (Mgal)	19,807	19,747	19,628	19,624	19,620	20,119	19,735	19,778	19,758	19,588	19,525	19,468	236,397
Revenues	$87,449	$87,334	$86,915	$86,748	$86,671	$87,719	$86,882	$87,274	$87,416	$87,089	$87,148	$87,159	$1,045,804
Avg. Use (Mgal)	4.01	4.00	3.99	4.00	4.00	4.10	4.03	4.01	4.02	3.96	3.93	3.91	4.00
Avg. Revenue ($/User)	$ 17.70	$ 17.67	$ 17.65	$ 17.68	$ 17.69	$ 17.87	$ 17.73	$ 17.70	$ 17.76	$ 17.60	$ 17.55	$ 17.51	$17.68
Commercial													
Users	560	555	555	554	551	555	559	562	561	564	565	563	559
Use (Mgal)	17,474	18,149	16,023	15,438	17,448	16,646	16,788	21,581	23,003	25,176	26,363	21,771	235,860
Revenues	$39,412	$40,668	$36,591	$35,357	$39,292	$37,780	$38,100	$46,868	$50,037	$54,520	$53,899	$47,702	$520,226
Avg. Use (Mgal)	31.20	32.70	28.87	27.87	31.67	29.99	30.03	38.40	41.00	44.64	46.66	38.67	35.14
Avg. Revenue	$ 70.38	$ 73.28	$ 65.93	$ 63.82	$ 71.31	$ 68.07	$ 68.16	$ 83.40	$ 89.19	$ 96.67	$ 95.40	$ 84.73	$77.53
TOTAL													
Users	5,502	5,497	5,478	5,461	5,451	5,464	5,458	5,492	5,482	5,512	5,531	5,541	5,489
Use (Mgal)	37,281	37,896	35,651	35,062	37,068	36,765	36,523	41,359	42,761	44,764	45,888	41,239	472,257
Revenues	$126,861	$128,002	$123,506	$122,105	$125,963	$125,499	$124,982	$134,142	$137,453	$141,609	$141,047	$134,861	$1,566,030
Avg. Use (Mgal)	35	37	33	32	36	34	34	42	45	49	51	43	39.14
Avg. Revenue	$23.06	$23.29	$22.55	$22.36	$23.11	$22.97	$22.90	$24.42	$25.07	$25.69	$25.50	$24.34	$23.77

Beatrice Sewer Rates
OA Project No. 013-2627

Table III-2

BPW Sewer Fund Income/Expenditures
FY Ending: Sept. 2013

	2010 Actual	2011 Actual	2012 Actual	2013 Budget	2014 Budget	2015 Proposed	2016 Proposed	2017 Proposed	2018 Proposed	2019 Proposed	
Operating Revenue											
User Fees	$1,375,951	$1,453,143	$1,566,247	$1,746,000	$1,729,000	$1,832,740	$1,924,377	$2,001,352	$2,061,393	$2,102,620	
Capital Reserve		$0	$0	$0	$0	$0	$0	$0	$0	$0	
Intrest Income	$7,465	$5,122	$9,593								
Merhandising	$17,909	$33,707	$23,448								
Capital In Aid of Construction		$262,085									
Other Income	$0	$6,985	$8,446	$0	$0	$0	$0	$0	$0	$0	
TOTAL - Operating Revenue	$1,401,325	$1,761,042	$1,607,734	$1,746,000	$1,729,000	$1,832,740	$1,924,377	$2,001,352	$2,061,393	$2,102,620	
Operating Expenses											
Operation & Maintenance	$511,512	$545,326	$579,755	$585,200	$596,250	$603,600	$621,708	$640,359	$659,570	$679,357	3% Increase
Vehicle & Equipment Expense				$64,750	$79,650	$79,650					
Customer Accounting	$69,251	$70,199	$72,440	$74,800	$67,850	$67,850	$69,886	$71,982	$74,142	$76,366	3% Increase
Additional Influent Sampling						$12,000	$12,360	$12,731	$6,000	$6,180	3% Increase
Engineering Expense	$16,000	$16,000	$16,000	$0	$0	$0	$0	$0	$0	$0	
Administrative	$232,187	$242,370	$247,856	$54,250	$48,470	$47,150	$48,565	$50,021	$51,522	$53,068	3% Increase
Municipal/General	$9,860	$13,490	$21,745	$231,178	$240,525	$248,880	$256,346	$264,037	$271,958	$280,117	3% Increase
TOTAL	$838,810	$887,385	$937,796	$1,010,178	$1,032,745	$1,059,130	$1,008,864	$1,039,130	$1,063,192	$1,095,087	3% Increase
Other Expenses											
Depreciation	$690,948	$665,564	$534,478	$840,000	$560,000	$580,000	$580,000	$580,000	$580,000	$580,000	0% Increase
Interest Expense	$7,465	$61,771	$36,750	$46,559	$30,524	$29,346	$29,346	$29,346	$29,346	$29,346	
Ammortization of Bond Issuance Cost	$1,490	$1,490	$2,295	$1,500							
Municipal Services/Misc	$0	$0	$0	$13,000	$12,000	$13,000	$13,000	$13,000	$13,000	$13,000	
Transfer to Other Depts.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TOTAL OTHER EXPENSES	$699,903	$728,825	$573,523	$901,059	$602,524	$622,346	$622,346	$622,346	$622,346	$622,346	
TOTAL EXPENSES	$1,538,713	$1,616,210	$1,511,319	$1,911,237	$1,635,269	$1,681,476	$1,631,210	$1,661,476	$1,685,538	$1,717,433	
Bond & Financial											
Bond Series 2009	$0	$0	$0	$43,500	$54,000	$52,500	$52,500	$52,500	$52,500	$52,500	
Bond Series 2011				$101,250	$104,780	$104,780	$104,780	$104,780	$104,780	$104,780	
Loan Payment DEQ	$120,099	$120,099	$0	$4,135	$4,218	$4,303	$4,303	$4,303	$4,303	$4,303	
Loan Payment DEQ	$56,148	$56,148	$0	$0	$0	$0	$0	$0	$0	$0	
Loan Payment DEQ 2009	$6,005	$6,005	$6,005	$0	$0	$0	$0	$0	$0	$0	
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TOTAL	$182,252	$182,252	$6,005	$148,885	$162,998	$161,583	$161,583	$161,583	$161,583	$161,583	
Capital Expenditures											
Disposal Plant	$114,191	$0	$310,999	$3,000	$0	$0	$15,282	$22,318	$96,612	$96,612	
Lift Stations	$25,772	$302,140	$0	$61,500	$0	$0	$0	$0	$0	$0	
EPA Compliance Fund							$0	$0	$100,000	$100,000	
Collection & Sanitary Sewer Improv	$98,575	$262,267	$0	$0			$50,000	$50,000	$50,000	$50,000	
Communication Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Tools & Work Equipment	$0	$0	$0	$44,600	$189,000	$24,000	$100,000	$103,000	$106,090	$109,273	3 % Increase
Transportation Equipment	$0	$0	$0	$0	$350,000	$0				$0	
Office Equipment	$0	$0	$0	$1,000	$0	$0				$0	
Work Orders				$0							
Work in Process	$0	$0	$0	$515,000	$325,000	$510,000	$200,000	$206,000	$212,180	$218,545	3 % Increase
TOTAL CAPITAL EXPENDITURES	$238,538	$564,407	$310,999	$625,100	$864,000	$534,000	$365,282	$381,318	$564,882	$574,430	
TOTAL EXPENDITURES	$420,790	$746,659	$317,004	$773,985	$1,026,998	$695,583	$526,865	$542,901	$726,465	$736,013	
TOTAL REVENUE REQUIREMENT	$1,959,503	$2,362,869	$1,828,323	$2,685,222	$2,662,267	$2,377,059	$2,158,075	$2,204,377	$2,412,003	$2,453,446	
TOTAL REVENUE	$1,401,325	$1,761,042	$1,607,734	$1,746,000	$1,729,000	$1,832,740	$1,924,377	$2,001,352	$2,061,393	$2,102,620	
Deficiency	-$558,178	-$601,827	-$220,589	-$939,222	-$933,267	-$544,319	-$233,698	-$203,025	-$350,610	-$350,826	
Depreciation	$690,948	$665,564	$534,478	$840,000	$560,000	$580,000	$580,000	$580,000	$580,000	$580,000	
Difference w/out Depreciation	$132,770	$63,737	$313,889	-$99,222	-$373,267	$35,681	$346,302	$376,975	$229,390	$229,174	
CUMLATIVE CASH RESERVE				$1,200,000	$826,733	$862,414	$1,208,716	$1,585,690	$1,815,080	$2,044,255	

F:\Projects\013-2627\Data\Cost of Service Data\[SewerRateCalculations_2014.xlsx]2Bdgt

As can be seen from Table III-2, a significant revenue increase is required to cover projected expenses and build the desired cash reserve. The City desires to build a cumulative cash reserve to over $2.0 million. However, the rate increases are calculated to start with a larger increase, then trail off towards the end of the planning horizon.

E. Rate Design and Comparison

For this study the software from AWWA designed for sewer evaluation was run to estimate the revenue that will be required in the future. Copies are included in the Appendices for reference. These reviews suggest no significant changes in structure.

Table III-3 – Proposed Sewer Rates

Rate Class	Step 1 – 2015		Step 2 – 2016	
	Monthly Charge*	Rate per Mgal	Monthly Charge*	Rate per Mgal
Residential	$13.50	$2.18	$14.00	$2.30
Commercial	$14.50	$2.18	$16.50	$2.30

Rate Class	Step 3 – 2017		Step 4 – 2018	
	Monthly Charge*	Rate per Mgal	Monthly Charge*	Rate per Mgal
Residential	$14.75	$2.35	$15.25	$2.40
Commercial	$18.00	$2.35	$19.00	$2.40

Rate Class	Step 5 – 2019			
	Monthly Charge*	Rate per Mgal		
Residential	$15.50	$2.45		
Commercial	$20.00	$2.45		

*Note – The Monthly Charge includes a $2 residential and $3 commercial/contract infrastructure improvement charge.

Industries within BPW will be assessed using the Commercial category. It is recommended that additional rate structure charges be implemented, in accordance with the following methodology.

Industrial sewer use provides a higher waste load to the system. The Nebraska Department of Environmental Quality (NDEQ) utilizes the Nebraska Pretreatment Program (NPP) as a way to limit or protect municipal systems from higher strength waste. The NPP is administered as a permit basis for industries. The City is consulted as part of the process, but the permitting program is administered and enforced by the NDEQ. The industry is responsible for obtaining the permit and providing the necessary background information regarding flow quantity and quality.

Generally, industrial wastewater constituents include and are permitted based on BOD, TSS, and Total Kjeldahl Nitrogen (TKN). In order to assist a municipality and their treatment works to be able to accept higher strength wastes, with disposal charges based on the waste strength or concentration. The disposal charges include a variable and surcharge calculation, allowing for normal and peak industrial operation. The peak operation can be defined as the upper concentration limits, as defined by the NPP. Once those concentration limits are exceeded, the surcharge calculation and associated additional rates are applied to the industry. These rates are generally revisited on an annual basis, and adjusted as necessary. Sample calculations for variable and surcharge rates are provided below.

A sample variable calculation is as follows:

- Cu = X*Ct (Vu/Vt)+Y*Ct (Bu/Bt)+Z*Ct (Su/St)+A*Ct (Tu/Tt), where
  - Ct = Total portion of WWTP O&M, repair costs/time
  - Cu = User's charge of WWTP O&M, repair costs/time
  - Bt = Total BOD contribution from all users per time unit
  - Bu = User's BOD contribution per time unit
  - St = Total TSS contribution from all users per time unit
  - Su = User's TSS contribution per time unit
  - Vt = Total Flow contribution from all users per time unit
  - Vu = User's Flow contribution per time unit
  - Tt = Total TKN contribution from all users per time unit
  - Tu = User's TKN contribution per time unit

The surcharge calculation is as follows:

- SC = [Rp(Pt-Pm)+Rc(Si-Sm)+Rt(Tt-Tm)+Rv((Vt-Vm)/1000)], where
  - SC = Surcharge
  - Rp = BOD treatment cost per pound per day
  - Pt = BOD in wastewater in lbs/day
  - Pm = BOD in allocated wastewater in lbs/day
  - Rc = TSS treatment cost per pound per day
  - Si = TSS in wastewater in lbs/day
  - Sm = TSS in allocated wastewater in lbs/day
  - Rt = TKN treatment cost per pound per day
  - Tt = TKN in wastewater in lbs/day
  - Tm = TKN in allocated wastewater in lbs/day
  - Rv = Treatment cost per 1,000 gallons
  - Vt = Volume of wastewater generated, gallons/day
  - Vm = Volume of wastewater allocated to user, gallons/day

Based on information provided by the City, which includes calculated values for capital construction, fixed, and variable costs, the following industrial rates are recommended to be:

- Total Treatment Cost per Pound of BOD: $1.26
- Total Treatment Cost per Pound of TKN: $0.63
- Total Treatment Cost per Pound of TSS: $0.25

Additional information regarding methodology and calculations are provided in Appendix "F." Treatment costs for hexane extractables, also known as Fats, Oils, and Greases (FOG) can also be assessed, as necessary. However, a separate rate for FOG is not recommended at this time.

In addition, it is recommended that the City continue to provide fees for disposal of septic tank or potable restroom facilities at the treatment plant. It is recommended that a disposal fee be assessed based on the size of the volume of the tank to be emptied:

- 1,000 to 1,500 gallons: $100.00
- 1,500 to 2,500 gallons: $150.00
- Over 2,500 gallons: $250.00

Appendix "H" represents a sample resolution/ordinance that can be used to establish the above rates when needed.

Table III-4 shows a rate comparison based on average usage. The reference year is 2012-2013. Rates shown are the current rate structure and the proposed rates for average sewer generation in each of the proposed rate classes.

Table III-4 – Proposed Sewer Rate Impact per User Class

Rate Class	Average Use ('12-'13) MGal	Existing Average Monthly Bill	Proposed Avg. Monthly Bill				
			Step 1 2014	Step 2 2015	Step 3 2016	Step 4 2017	Step 5 2018
Residential	3.84	$18.25	$21.86	$22.82	$23.77	$24.46	$24.90
Commercial	30.10	$71.73	$80.12	$85.74	$88.74	$91.25	$93.75

Rate classifications were added to appropriately allocate the COS as equally as possible. This will lessen the burden on the current user classes.

Tables III-5a and 5b show a comparison of existing and proposed rates for residential and commercial wastewater uses. Residential rates are shown for specific usages from 1,000 to 25,000 gallons. Commercial rates are shown for specific usages from 1,000 to 40,000 gallons. A sample sewer rate ordinance is included in the appendices for use by the BPW.

Beatrice Sewer Rates
OA Project No. 013-2627

Table III-5a Residential Sewer Rate Comparison

Existing		**Proposed - Step 3**	
Service Charge	$10.50	Service Charge	$14.75
Usage	$2.02 per Mgal	Usage	$2.35 per Mgal
Proposed - Step 1		**Proposed - Step 4**	
Service Charge	$13.50	Service Charge	$15.25
Usage	$2.18 per Mgal	Usage	$2.40 per Mgal
Proposed - Step 2		**Proposed - Step 5**	
Service Charge	$14.00	Service Charge	$15.50
Usage	$2.30 per Mgal	Usage	$2.45 per Mgal

Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)
1	$12.52	$15.68	$16.30	$17.10	$17.65	$17.95
2	$14.54	$17.86	$18.60	$19.45	$20.05	$20.40
3	$16.56	$20.04	$20.90	$21.80	$22.45	$22.85
4	$18.58	$22.22	$23.20	$24.15	$24.85	$25.30
5	$20.60	$24.40	$25.50	$26.50	$27.25	$27.75
6	$22.62	$26.58	$27.80	$28.85	$29.65	$30.20
7	$24.64	$28.76	$30.10	$31.20	$32.05	$32.65
8	$26.66	$30.94	$32.40	$33.55	$34.45	$35.10
9	$28.68	$33.12	$34.70	$35.90	$36.85	$37.55
10	$30.70	$35.30	$37.00	$38.25	$39.25	$40.00
11	$32.72	$37.48	$39.30	$40.60	$41.65	$42.45
12	$34.74	$39.66	$41.60	$42.95	$44.05	$44.90
13	$36.76	$41.84	$43.90	$45.30	$46.45	$47.35
14	$38.78	$44.02	$46.20	$47.65	$48.85	$49.80
15	$40.80	$46.20	$48.50	$50.00	$51.25	$52.25
16	$42.82	$48.38	$50.80	$52.35	$53.65	$54.70
17	$44.84	$50.56	$53.10	$54.70	$56.05	$57.15
18	$46.86	$52.74	$55.40	$57.05	$58.45	$59.60
19	$48.88	$54.92	$57.70	$59.40	$60.85	$62.05
20	$50.90	$57.10	$60.00	$61.75	$63.25	$64.50
21	$52.92	$59.28	$62.30	$64.10	$65.65	$66.95
22	$54.94	$61.46	$64.60	$66.45	$68.05	$69.40
23	$56.96	$63.64	$66.90	$68.80	$70.45	$71.85
24	$58.98	$65.82	$69.20	$71.15	$72.85	$74.30
25	$61.00	$68.00	$71.50	$73.50	$75.25	$76.75

Note:
Average Commercial sewer generation = 30 Mgal (FY 2013)

Beatrice Sewer Rates
OA Project No. 013-2627

Table III-5b **Commercial Sewer Rate Comparison**

Existing				**Proposed - Step 1**				**Proposed - Step 2**					
Service Charge	$10.50			Service Charge	$14.50			Service Charge	$16.50				
Usage	$2.02 per Mgal			Usage	$2.18 per Mgal			Usage	$2.30 per Mgal				
Proposed - Step 3				**Proposed - Step 4**				**Proposed - Step 5**					
Service Charge	$18.00			Service Charge	$19.00			Service Charge	$20.00				
Usage	$2.35 per Mgal			Usage	$2.40 per Mgal			Usage	$2.45 per Mgal				

Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)	Usage (Mgal)	Existing	Proposed (Step 1)	Proposed (Step 2)	Proposed (Step 3)	Proposed (Step 4)	Proposed (Step 5)
1	$12.52	$16.68	$18.80	$20.35	$21.40	$22.45	21	$52.92	$60.28	$64.80	$67.35	$69.40	$71.45
2	$14.54	$18.86	$21.10	$22.70	$23.80	$24.90	22	$54.94	$62.46	$67.10	$69.70	$71.80	$73.90
3	$16.56	$21.04	$23.40	$25.05	$26.20	$27.35	23	$56.96	$64.64	$69.40	$72.05	$74.20	$76.35
4	$18.58	$23.22	$25.70	$27.40	$28.60	$29.80	24	$58.98	$66.82	$71.70	$74.40	$76.60	$78.80
5	$20.60	$25.40	$28.00	$29.75	$31.00	$32.25	25	$61.00	$69.00	$74.00	$76.75	$79.00	$81.25
6	$22.62	$27.58	$30.30	$32.10	$33.40	$34.70	26	$63.02	$71.18	$76.30	$79.10	$81.40	$83.70
7	$24.64	$29.76	$32.60	$34.45	$35.80	$37.15	27	$65.04	$73.36	$78.60	$81.45	$83.80	$86.15
8	$26.66	$31.94	$34.90	$36.80	$38.20	$39.60	28	$67.06	$75.54	$80.90	$83.80	$86.20	$88.60
9	$28.68	$34.12	$37.20	$39.15	$40.60	$42.05	29	$69.08	$77.72	$83.20	$86.15	$88.60	$91.05
10	$30.70	$36.30	$39.50	$41.50	$43.00	$44.50	30	$71.10	$79.90	$85.50	$88.50	$91.00	$93.50
11	$32.72	$38.48	$41.80	$43.85	$45.40	$46.95	31	$73.12	$82.08	$87.80	$90.85	$93.40	$95.95
12	$34.74	$40.66	$44.10	$46.20	$47.80	$49.40	32	$75.14	$84.26	$90.10	$93.20	$95.80	$98.40
13	$36.76	$42.84	$46.40	$48.55	$50.20	$51.85	33	$77.16	$86.44	$92.40	$95.55	$98.20	$100.85
14	$38.78	$45.02	$48.70	$50.90	$52.60	$54.30	34	$79.18	$88.62	$94.70	$97.90	$100.60	$103.30
15	$40.80	$47.20	$51.00	$53.25	$55.00	$56.75	35	$81.20	$90.80	$97.00	$100.25	$103.00	$105.75
16	$42.82	$49.38	$53.30	$55.60	$57.40	$59.20	36	$83.22	$92.98	$99.30	$102.60	$105.40	$108.20
17	$44.84	$51.56	$55.60	$57.95	$59.80	$61.65	37	$85.24	$95.16	$101.60	$104.95	$107.80	$110.65
18	$46.86	$53.74	$57.90	$60.30	$62.20	$64.10	38	$87.26	$97.34	$103.90	$107.30	$110.20	$113.10
19	$48.88	$55.92	$60.20	$62.65	$64.60	$66.55	39	$89.28	$99.52	$106.20	$109.65	$112.60	$115.55
20	$50.90	$58.10	$62.50	$65.00	$67.00	$69.00	40	$91.30	$101.70	$108.50	$112.00	$115.00	$118.00

Note:
Average Commercial sewer generation = 30 Mgal (FY 2013)

As noted earlier in the study, rate comparisons with other utilities are a necessary part of any study, but they offer little or no support for the accuracy or sufficiency of any rate. Table III-6 contains a comparison of retail rates with other utilities in the area.

Table III-6 – Wastewater Rate Comparison

Monthly Wastewater Charges for Cities in Nebraska	Residential with 3/4 Inch Meter using 9 units of water (6,732 gal.)
Beatrice, Nebraska	
Current	$24.10 (calculated)
Proposed – Step 1	$28.18 (calculated)
Proposed – Step 2	$29.48 (calculated)
Proposed – Step 3	$30.57 (calculated)
Proposed – Step 4	$31.41 (calculated)
Proposed – Step 5	$31.99 (calculated)
Bennett, Nebraska	$36.39
Columbus, Nebraska	$24.24
Hickman, Nebraska	$54.63
Lincoln, Nebraska	$19.03
Nebraska City, Nebraska	$21.52
Norfolk, Nebraska	$30.01
Rural Water District #1	NA
Seward, Nebraska	$39.60
Waverly, Nebraska	$39.71
York, Nebraska	$18.37

The information displayed in Table III-8, with the exception of Columbus and Norfolk, was obtained from the City of Lincoln (http://www.lincoln.ne.gov/City/pworks/water/customer/rates.htm) , and is current as of July 2012. Information from Columbus and Norfolk was obtained from each respective City.

APPENDIX "A"

Existing Water and Sewer Rate Ordinances

#7

ORDINANCE NUMBER 13-050

An ordinance to revise the water rate charges for water purchased from the City of Beatrice, Nebraska; to authorize the Beatrice Board of Public Works to establish charges to be paid by property owners for tapping of commercial mains; to repeal Ordinance Number 12-042 and any other conflicting ordinances or parts of ordinances; and to provide for publication in pamphlet form and an effective date of this ordinance.

BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF BEATRICE, NEBRASKA:

SECTION 1. The following charges are hereby adopted and established for customers of the Water Works System of Beatrice, Nebraska, based on service charges and monthly consumption;

(a) The monthly service charge will be assessed according to the following schedule:

For Service through 5/8 or 3/4 inch meter.....	$10.75
For Service through a 1 inch meter.....	13.95
For Service through a 1 1/4 or 1 1/2 inch meter.....	19.20
For Service through a 2 inch meter.....	27.15
For Service through a 3 inch meter or larger.....	49.25

(b) Charges for Water furnished in addition to the Service Charges shall be set at $1.86/1,000 gallons of water usage.

(c) The monthly charge for water from transmission line furnished to Agrium U.S. Inc. and Koch Nitrogen, Inc., pursuant to the contracts between said Companies and the Board of Public Works and amendments thereto shall be as follows: the service charge will be assessed as $49.25 per month, for the first 100,000 gallons, the rate above in (b) shall apply.

Next.....400,000 gallons.....	$.64 per 1,000 gallons
Over....500,000 gallons.....	$.43 per 1,000 gallons

(d) The monthly charge for water furnished to the Lower Big Blue Natural Resources District and the Village of Filley, Nebraska pursuant to contracts between said political subdivisions and the City of Beatrice, and amendments thereto, shall be as follows:

Service Charge..... $49.25

Charges for Water furnished in addition to the Service Charges shall be set at $1.86 per 1,000 gallons of water usage.

(e) A charge shall be made for fire hydrants and sprinkler service (unmetered) at the following rate:

Municipal Fire Hydrants.....	$ 65.00 per year
Private Fire Hydrants.....	90.00 per year
4 Inch Sprinkler Service.....	165.00 per year
6 Inch Sprinkler Service.....	240.00 per year
8 Inch Sprinkler Service.....	325.00 per year

(f) A monthly infrastructure improvement charge will be assessed according to the following schedule:

For Residential customers.....	$2.00 per month
For Commercial customers.....	$3.00 per month

SECTION 2. The Beatrice Board of Public Works is hereby authorized to establish the charges to be paid by the owner of any property desiring to connect the same with a commercial main in the City of Beatrice. Such charges shall be based upon the average cost to the Beatrice Board of Public Works for such tapping of commercial mains in the City of Beatrice.

SECTION 3. That the charges prescribed and established by this Ordinance shall become effective after the effective date of this Ordinance, except for charges to Agrium U.S., Inc. and Koch Nitrogen, Inc. as described in Section 1 Paragraph (C) which shall become effective January 1, 2014, and shall remain in full force and effective until amended or repealed by an ordinance of the City of Beatrice. All billings after the effective date of this Ordinance shall be at the new rates.

SECTION 4. That Ordinance Number 12-042 and any other ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 5. That this ordinance shall be in full force and effect from and after its passage, approval, and publication in pamphlet form as provided by law.

PASSED AND APPROVED this 16th day of September, 2013.

Dennis M. Schuster, Mayor

Attest:

Linda S. Koch, City Clerk

ORDINANCE NUMBER 12-043

An ordinance to regulate the fees and charges for use of the Wastewater Treatment Works of the City of Beatrice, Nebraska; to repeal Ordinance Number 11-020; to repeal conflicting ordinances or parts of ordinances; and to provide for publication in pamphlet form and an effective date of this ordinance.

BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF BEATRICE, NEBRASKA:

SECTION 1. That the wastewater minimum charge per month is hereby set at $10.50.

SECTION 2. That the wastewater use unit charge is hereby set at the following rates: $2.02/1,000 gallons of water (wastewater).

SECTION 3. That the charges prescribed and established by this Ordinance shall become effective after the effective date of this Ordinance and shall remain in full force and effect until amended or repealed by an ordinance of the City of Beatrice. All billings on or after the effective date of this Ordinance shall be at the new rates.

SECTION 4. That Ordinance Number 11-020 and any other ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 5. That this ordinance shall be in full force and effect from and after its passage, approval, and publication as provided by law in pamphlet form.

PASSED AND APPROVED this 17th day of September, 2012.

Dennis M. Schuster, Mayor

Attest:

Linda S. Koch, City Clerk

APPENDIX "B"

Historical Water Data
From City of Beatrice Records

Usage Data: September 2011 to August 2013

Top 15 Customers

WATER

	Residential			Commercial			Contract Sales		
	Customers	Usage(gallons)	Amount	Customers	Usage(gallons)	Amount	Customers	Usage(gallons)	Amount
Aug-2013	4993	58,458,000	$ 161,165	536	33,399,000	$ 70,490	2	55,984,000	$ 25,266
Jul-2013	5021	44,420,000	$ 136,121	646	36,503,000	$ 76,047	2	63,606,000	$ 28,468
Jun-2013	5009	29,426,000	$ 109,133	645	24,880,000	$ 55,071	2	61,842,000	$ 27,852
May-2013	4980	20,436,000	$ 92,634	634	23,234,000	$ 51,896	2	49,275,000	$ 22,625
Apr-2013	4988	19,629,000	$ 91,264	617	18,341,000	$ 42,839	2	51,599,000	$ 23,592
Mar-2013	4977	18,585,000	$ 89,112	614	16,543,000	$ 39,551	2	49,862,000	$ 22,772
Feb-2013	4965	18,656,000	$ 89,349	615	16,430,000	$ 39,332	2	42,690,000	$ 19,809
Jan-2013	4965	20,553,000	$ 92,821	612	15,411,000	$ 37,486	2	54,310,000	$ 24,359
Dec-2012	4986	24,181,000	$ 99,513	621	15,121,000	$ 37,049	2	46,282,000	$ 19,852
Nov-2012	5006	28,716,000	$ 107,793	646	19,526,000	$ 45,340	2	53,271,000	$ 22,530
Oct-2012	5008	43,478,000	$ 134,326	655	28,516,000	$ 61,644	2	58,374,000	$ 24,289
Sep-2012	5020	62,413,000	$ 156,790	657	34,531,000	$ 67,633	2	46,088,000	$ 19,626
Aug-2012	5008	72,776,000	$ 174,282	658	43,444,000	$ 80,065	2	20,865,000	$ 9,998
Jul-2012	5015	55,178,000	$ 144,571	656	41,856,000	$ 79,883	2	66,060,000	$ 27,007
Jun-2012	4995	52,736,000	$ 140,389	651	35,269,000	$ 68,847	2	54,086,000	$ 22,759
May-2012	4984	24,609,000	$ 93,204	649	28,687,000	$ 57,827	2	60,384,000	$ 24,986
Apr-2012	4942	20,155,000	$ 85,446	637	20,262,000	$ 43,498	2	51,003,000	$ 21,645
Mar-2012	4949	19,823,000	$ 84,905	619	18,727,000	$ 40,594	2	38,573,000	$ 16,751
Feb-2012	4944	20,539,000	$ 86,116	607	20,847,000	$ 43,983	2	54,183,000	$ 22,548
Jan-2012	4948	21,342,000	$ 87,480	608	17,785,000	$ 38,916	2	50,732,000	$ 21,111
Dec-2011	4964	20,891,000	$ 86,838	613	18,043,000	$ 39,412	2	47,585,000	$ 19,175
Nov-2011	4995	30,084,000	$ 102,438	632	21,528,000	$ 45,502	2	55,993,000	$ 22,366
Oct-2011	4999	41,135,000	$ 120,961	651	25,098,000	$ 51,759	2	53,628,000	$ 20,806
Sep-2011	4990	43,064,000	$ 117,561	650	29,309,000	$ 55,656	2	63,089,000	$ 24,409

Beatrice Board of Public Works Water Customers Sales October 2012-September 2013

	Residential			Commercial			Contract Sales		
	customers	usage (gallons)	amount	customers	usage (gallons)	amount	customers	usage (gallons)	amount
Oct-2012	5008	43,478,000	$ 134,326	655	28,516,000	$ 61,644	2	58,374,000	$ 24,289
Nov-2012	5006	28,716,000	$ 107,793	646	19,526,000	$ 45,340	2	53,271,000	$ 22,530
Dec-2012	4986	24,181,000	$ 99,513	621	15,121,000	$ 37,049	2	46,282,000	$ 19,852
Jan-2013	4965	20,553,000	$ 92,821	612	15,411,000	$ 37,486	2	54,310,000	$ 24,359
Feb-2013	4965	18,656,000	$ 89,349	615	16,430,000	$ 39,332	2	42,690,000	$ 19,809
Mar-2013	4977	18,585,000	$ 89,112	614	16,543,000	$ 39,551	2	49,862,000	$ 22,772
Apr-2013	4988	19,629,000	$ 91,264	617	18,341,000	$ 42,839	2	51,599,000	$ 23,592
May-2013	4980	20,436,000	$ 92,634	634	23,234,000	$ 51,896	2	49,275,000	$ 22,625
Jun-2013	5009	29,426,000	$ 109,133	645	24,880,000	$ 55,071	2	61,842,000	$ 27,852
Jul-2013	5021	44,420,000	$ 136,121	646	36,503,000	$ 76,047	2	63,606,000	$ 28,468
Aug-2013	5019	58,458,000	$ 161,165	649	33,399,000	$ 70,490	2	55,984,000	$ 25,266
Sep-2013	5013	43,069,000	$ 133,696	653	29,504,000	$ 63,527	2	56,075,000	$ 24,651
2013 totals	59937	369,607,000	$ 1,336,927	7607	277,408,000	$ 620,274	24	643,170,000	$ 286,065

Beatrice Board of Public Works sewer Customers Sales October 2012-September 2013

	Residential			Commercial		
	customers	usage (gallons)	amount	customers	usage (gallons)	amount
Oct-2012	4961	19,303,965	91,085	561	18,447,000	43,359
Nov-2012	4944	19,323,530	90,946	561	15,239,000	36,934
Dec-2012	4933	19,284,906	90,752	559	12,912,000	32,217
Jan-2013	4912	19,307,574	90,577	554	13,538,000	33,162
Feb-2013	4917	19,208,762	90,430	557	14,689,000	35,786
Mar-2013	4929	19,133,015	90,403	556	14,257,000	34,903
Apr-2013	4946	18,994,708	90,302	556	14,231,000	34,857
May-2013	4930	18,796,025	89,733	560	15,480,000	37,417
Jun-2013	4955	18,763,183	89,929	561	16,982,000	40,462
Jul-2013	4967	18,543,153	89,611	557	23,237,000	53,071
Aug-2013	4945	18,506,728	89,306	557	22,211,000	50,973
Sep-2013	4967	18,410,347	89,342	560	20,429,000	47,406
2013 totals	59306	227,575,896	$ 1,082,416	6699	201,652,000	$ 480,546

WATER October 2012-Sept 2013

RESIDENTIAL	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	5008	5006	4986	4965	4965	4977	4988	4980	5009	5021	5019	5013	4995	AVG
use(Mgal)	43,478	28,716	24,181	20,553	18,656	18,585	1,629	20,436	29,426	44,420	58,458	43,069	351,607	
Revenues	$134,326	$107,793	$99,513	$92,821	$89,349	$89,112	$91,264	$92,634	$109,133	$136,121	$161,165	$133,696	$1,336,927	
Avg Use(Mgal)	8.68	5.74	4.85	4.14	3.76	3.73	0.33	4.10	5.87	8.85	11.65	8.59	5.86	AVG
Avg Revenue ($/User)	$26.82	$21.53	$19.96	$18.70	$18.00	$17.90	$18.30	$18.60	$21.79	$27.11	$32.11	$26.67	$ 22.29	AVG

INSTITUTIONAL (CHURCHES, SCHOOLS, HOPITALS/NURSING HOMES)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	43	43	43	43	43	43	43	43	43	43	43	43	43	AVG
use(Mgal)	6,284	7,016	10,020	5,873	7,477	4,920	3,282	2,779	3,074	2,979	3,712	6,679	64,095	
Revenues	$ 12,461	$ 13,814	$ 19,208	$ 11,725	$ 14,599	$ 9,988	$ 7,027	$ 6,117	$ 6,652	$ 6,426	$ 8,966	$ 11,978	$ 128,961	
Avg Use(Mgal)	146.14	163.16	233.02	136.58	173.88	114.42	76.33	64.63	71.49	69.28	86.33	155.33	124.22	AVG
Avg Revenue ($/User)	$ 289.79	$ 321.26	$ 446.70	$ 272.67	$ 339.51	$ 232.28	$ 163.42	$ 142.26	$ 154.70	$ 149.44	$ 208.51	$ 278.56	$ 240.25	AVG

COMMERCIAL	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	608	599	574	565	568	567	587	587	598	599	602	606	588	AVG
use(Mgal)	21,174	11,217	3,164	8,191	8,675	10,744	14,428	19,796	21,087	32,878	28,901	21,841	202,096	
Revenues	$22,913	$6,592	$5,574	$1,099	$2,552	$5,133	$11,008	$21,892	$19,196	$39,914	$34,767	$25,050	$182,344	
Avg Use(Mgal)	34.83	18.73	5.51	14.50	15.27	18.95	24.58	33.72	35.26	54.89	48.01	36.04	28.36	AVG
Avg Revenue ($/User)	$ 37.69	$ 11.01	$ (9.71)	$ (1.95)	$ 4.49	$ 9.05	$ 18.75	$ 37.29	$ 32.10	$ 66.63	$ 57.75	$ 41.34	$ 25.60	AVG

INDUSTRIAL(KOCH/AGRIUM)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	2	2	2	2	2	2	2	2	2	2	2	2	2	AVG
use(Mgal)	58374	53271	46282	54310	42690	49862	51599	49275	61842	63606	55984	56075	643,170	
Revenues	$24,289	$22,530	$19,852	$24,359	$19,809	$22,772	$23,592	$22,625	$27,852	$28,468	$25,266	$24,651	$286,065	
Avg Use(Mgal)	29187	26636	23141	27155	21345	24931	25800	24638	30921	31803	27992	28038	26,799	AVG
Avg Revenue ($/User)	$12,145	$11,265	$9,926	$12,180	$9,905	$11,386	$11,796	$11,313	$13,926	$14,234	$12,633	$12,326	$ 11,919	AVG

CONTRACT (FILLEY/NRD)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	2	2	2	2	2	2	2	2	2	2	2	2	2	AVG
use(Mgal)	1058	1293	1937	1347	278	879	631	659	719	646	786	984	64,095	
Revenues	$1,981	$2,404	$3,563	$2,501	$2,372	$1,658	$1,212	$1,262	$1,371	$1,239	$1,491	$1,848	$ 22,902	
Avg Use(Mgal)	529.00	646.50	968.50	673.50	139.00	439.50	315.50	329.50	359.50	323.00	393.00	492.00	467.38	AVG
Avg Revenue ($/User)	$ 990.50	$ 1,202.00	$ 1,781.50	$ 1,250.50	$ 1,186.00	$ 829.00	$ 606.00	$ 631.00	$ 685.50	$ 619.50	$ 745.50	$ 924.00	$ 916.80	AVG

TOTALS	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	5663	5652	5607	5577	5580	5591	5622	5614	5654	5667	5668	5666	5630	AVG
use(Mgal)	130,368	101,513	85,584	90,274	77,776	84,990	71,569	92,945	116,148	144,529	147,841	128,648	1,325,063	
Revenues	$195,970	$153,133	$136,562	$130,307	$128,681	$128,663	$134,103	$144,530	$164,204	$212,168	$231,655	$197,223	$1,957,199	
Avg Use(Mgal)													110,422	AVG
Avg Revenue ($/User)													$ 163,099.92	AVG

Top 15 water customers October 2012 to Sept 2013

		Gallons	billed
Koch Nitrogen	21178 SW 89th Rd	634,540,000	$ 258,692.63
SCC (Ag college)	4600 W Belvedere	17,448,000	$ 31,997.40
BSDC	3000 Lincoln	16,384,000	$ 30,082.20
Agrium	22292 SW 89th	8,630,000	$ 27,372.75
SCC	4771 W Scott	9,164,000	$ 17,086.20
Village of Filley	26th & Hoyt	8,449,000	$ 15,799.20
Beatrice Community Hospital	4800 Hospital Parkway	7,603,000	$ 14,276.40
Lower big blue	4201 W State Hwy 4	3,765,000	$ 7,102.80
Exmark	2101 Ashland	2,770,000	$ 5,311.80
Beatrice Senior High	600 Orange Blvd	2,575,000	$ 5,152.13
Store Kraft	500 Irving	2,337,000	$ 4,797.60
Accuma	2101 Ridgeview	1,661,000	$ 3,315.60
good Samaritan	401 S 22nd	1,341,000	$ 2,712.45
SJM Rentals	2205 N 6th	1,291,000	$ 2,649.60
John Huninghake apartments	726 W Mary	1,173,000	$ 2,442.72
	Totals	719,131,000	$ 428,791.48

F:\Projects\013-2627\Data\City Supplied Data\[Top customers.xlsx]combined

APPENDIX "C"

Cost-of-Service Review
Municipal Water Rates

Name of your utility: BEATRICE, NEBRASKA WATER RATES

F:\Projects\013-2627\Data\Cost of Service Data\[COST-OF-SERVICE_WATER.xlsx]A

EXHIBIT 1

BEATRICE, NEBRASKA WATER RATES

CONTROL PARAMETERS AND RATES

FINANCIAL CONTROL PARAMETERS:

Interest earning rate - Fund balances	0.043
Interest rate - New Bond Issues	0.045
Bond issue costs (% of gross proceeds)	0.010
Bond reserve fund - years of debt service (0 if N/A)	1.00
Bond life - years	20.00
Leave bond interest earnings in bond fund? Y or N	Y

WATER RATES AND SERVICE CHARGES:

Year (input first year = base year)	2013	2014	2015	2016	2017	2018
Monthly service charge per equivalent meter:						
RESIDENTIAL	10.75	11.83	12.89	13.79	14.76	15.64
COMMERCIAL	10.75	11.83	12.89	13.79	14.76	15.64
	0.00	0.00	0.00	0.00	0.00	0.00
INDUSTRIAL	49.25	54.18	59.05	63.18	67.61	71.66
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
Current water rate (volume charge):						
RESIDENTIAL	1.80	1.98	2.16	2.31	2.47	2.62
COMMERCIAL	1.80	1.98	2.16	2.31	2.47	2.62
	0.00	0.00	0.00	0.00	0.00	0.00
INDUSTRIAL	0.41	0.45	0.49	0.53	0.56	0.60
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00

COST ALLOCATION AND PEAKING FACTORS:

Systemwide factors:	AVERAGE	MAX	AVG/MAX
Average day/maximum day =	3,609,000	5,450,000	0.66
Average day/maximum hour =	3,609,000	8,720,000	0.41

Capacity factors by customer class:	Max-Day	Max-Hour
RESIDENTIAL	1.29	1.78
COMMERCIAL	1.29	1.34
INDUSTRIAL	1.17	1.44
	0.00	0.00
	0.00	0.00

EXHIBIT 2
BEATRICE, NEBRASKA WATER RATES
WATER CONSUMPTION BY CUSTOMER CLASS
UNIT = MGAL

CUSTOMER CLASS	ACTUAL 2013	2014	2015 PROJECTED	2016	2017	2018
RESIDENTIAL	441,681	443,889	446,109	448,339	450,581	452,834
COMMERCIAL	325,135	326,761	328,394	330,036	331,687	333,345
	599,180	0	0	0	0	0
INDUSTRIAL	619,751	619,751	619,751	619,751	619,751	619,751
	0.00	0	0	0	0	0
	0.00	0	0	0	0	0
TOTAL	1,985,747	1,390,401	1,394,254	1,398,127	1,402,019	1,405,930

PERCENT OF TOTAL

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	22.2%	31.9%	32.0%	32.1%	32.1%	32.2%
COMMERCIAL	16.4%	23.5%	23.6%	23.6%	23.7%	23.7%
	30.2%	0.0%	0.0%	0.0%	0.0%	0.0%
INDUSTRIAL	31.2%	44.6%	44.5%	44.3%	44.2%	44.1%
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CONSUMPTION PER METERED ACCOUNT

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	7.39	7.39	7.39	7.39	7.39	7.39
COMMERCIAL	42.67	42.67	42.67	42.67	42.67	42.67
	0.00	0.00	0.00	0.00	0.00	0.00
INDUSTRIAL	25,823	25,823	25,823	25,823	25,823	25,823
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
AVERAGE METER	29.46	20.53	20.48	20.43	20.39	20.34

EXHIBIT 2A
BEATRICE, NEBRASKA WATER RATES
WATER CONSUMPTION BY CUSTOMER CLASS
WEIGHTED BY MAXIMUM-DAY CAPACITY FACTORS

CUSTOMER CLASS	ACTUAL 2013	2014	PROJECTED 2015	2016	2017	2018
RESIDENTIAL	569,768	572,617	575,480	578,358	581,250	584,156
COMMERCIAL	419,424	421,521	423,629	425,747	427,876	430,015
	0	0	0	0	0	0
INDUSTRIAL	725,109	725,109	725,109	725,109	725,109	725,109
	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	1,714,301	1,719,247	1,724,218	1,729,214	1,734,234	1,739,280

PERCENT OF TOTAL

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	33.24%	33.31%	33.38%	33.45%	33.52%	33.59%
COMMERCIAL	24.47%	24.52%	24.57%	24.62%	24.67%	24.72%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
INDUSTRIAL	42.30%	42.18%	42.05%	41.93%	41.81%	41.69%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

EXHIBIT 2B
BEATRICE, NEBRASKA WATER RATES
WATER COMSUMPTION BY CUSTOMER CLASS
WEIGHTED BY MAXIMUM-HOUR CAPACITY FACTORS

CUSTOMER CLASS	ACTUAL 2013	PROJECTED 2014	2015	2016	2017	2018
RESIDENTIAL	786,192	790,123	794,074	798,044	802,034	806,045
COMMERCIAL	435,681	437,859	440,049	442,249	444,460	446,682
	0	0	0	0	0	0
INDUSTRIAL	892,441	892,441	892,441	892,441	892,441	892,441
	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	2,114,315	2,120,424	2,126,564	2,132,734	2,138,936	2,145,168

PERCENT OF TOTAL

CUSTOMER CLASS		2013	2014	2015	2016	2017	2018
RESIDENTIAL		37.18%	37.26%	37.34%	37.42%	37.50%	37.57%
COMMERCIAL		20.61%	20.65%	20.69%	20.74%	20.78%	20.82%
	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
INDUSTRIAL		42.21%	42.09%	41.97%	41.84%	41.72%	41.60%
		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

EXHIBIT 3
BEATRICE, NEBRASKA WATER RATES
METERS AND EQUIVALENT METERS BY CUSTOMER CLASS
BASE-YEAR DATA

	NUMBER OF METERS BY SIZE							
Meter Size	5/8- 3/4-IN.	1-IN.	1 1/2-IN.	2-IN.	3-IN.	4-IN.	6-IN.	8-IN.
AWWA Capacity Rating Factor (Equivalent meter)	1.00	1.67	3.33	5.33	10.00	16.66	33.33	53.33
RESIDENTIAL								
Actual Meters	5021.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equivalent Meters	5021.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COMMERCIAL								
Actual Meters	635.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equivalent Meters	635.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual Meters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equivalent Meters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INDUSTRIAL								
Actual Meters	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00
Equivalent Meters	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
Actual Meters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equivalent Meters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Actual Meters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equivalent Meters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	---	---	---	---	---	---	---	---
TOTAL Actual Meters	5656.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00
TOTAL Equivalent Meters	5656.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00

SUMMARY

CLASS		TOTAL ACTUAL METERS	TOTAL EQUIV. METERS	PERCENT OF TOTAL
RESIDENTIAL				
Actual Meters		5021.00		0.89
Equivalent Meters			5021.00	0.88
COMMERCIAL				
Actual Meters		635.00		0.11
Equivalent Meters			635.00	0.11
	0.00			
Actual Meters		0.00		0.00
Equivalent Meters			0.00	0.00
INDUSTRIAL				
Actual Meters		2.00		0.00
Equivalent Meters			20.00	0.00
Actual Meters		0.00		0.00
Equivalent Meters			0.00	0.00
Actual Meters		0.00		0.00
Equivalent Meters			0.00	0.00
		---	---	---
TOTAL Actual Meters		5658.00		1.00
TOTAL Equivalent Meters			5676.00	1.00

EXHIBIT 3A
BEATRICE, NEBRASKA WATER RATES
FORECAST OF METERS IN-USE BY CUSTOMER CLASS
(EQUIVALENT METERS IN PROPORTION TO BASE-YEAR DATA)

CUSTOMER CLASS	PROJECTED GROWTH RATE	ACTUAL 2013	2014	2015	2016	2017	2018
RESIDENTIAL							
Actual Meters	0.005	4,980	5,005	5,030	5,055	5,080	5,106
Equivalent Meters		5,021	5,046	5,071	5,097	5,122	5,148
COMMERCIAL							
Actual Meters	0.005	635	638	641	645	648	651
Equivalent Meters		635	638	641	645	648	651
	0.00						
Actual Meters	0.000	0	0	0	0	0	0
Equivalent Meters		0	0	0	0	0	0
INDUSTRIAL							
Actual Meters	0.000	2	2	2	2	2	2
Equivalent Meters		20	20	20	20	20	20
Actual Meters	0.000	0	0	0	0	0	0
Equivalent Meters		0	0	0	0	0	0
Actual Meters	0.000	0	0	0	0	0	0
Equivalent Meters		0	0	0	0	0	0
TOTAL Actual Meters		5,617	5,645	5,673	5,702	5,730	5,759
TOTAL Equivalent Meters		5,676	5,704	5,733	5,761	5,790	5,819

EXHIBIT 4
BEATRICE, NEBRASKA WATER RATES
CAPITAL PROGRAMS PROJECTIONS

DESCRIPTION	ACTUAL (BASE YEAR) 2013	2014	2015	PROJECTED 2016	2017	2018
BOND FUNDED						
Buildings and Structures						
Distribution & Storage						
Water Treatment						
-		0.00				
-		0.00				
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00
CONTRIBUTIONS-IN-AID						
For Main Extensions						
For Services						
For Hydrants						
Other Income						
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00
Transfer to Cash Flow Schedule	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE FUNDED - Capital Expenditures						
Construction, Well Maint., Meters	$104,048	$113,700	$136,700	$0	$0	$0
Computer, Tools, Equip., Communications	$19,896	$22,800	$23,000	$0	$0	$0
Transportation Equipment	$0	$0	$35,000	$0	$0	$0
Buildings	$0	$50,000	$0	$0	$0	$0
Other - Construction- Work In Progress	$329,544	$481,000	$563,000	$872,700	$667,000	$868,000
TOTAL	$453,488	$667,500	$757,700	$872,700	$667,000	$868,000
Transfer to Cash Flow Schedule	-$453,488	-$667,500	-$757,700	-$872,700	-$667,000	-$868,000
TOTAL CAPITAL PROGRAMS	$453,488	$667,500	$757,700	$872,700	$667,000	$868,000

EXHIBIT 5
BEATRICE, NEBRASKA WATER RATES
BOND FUNDS, RESERVE FUNDS, AND DEBT SERVICE

DESCRIPTION	ACTUAL (BASE YEAR) 2013	PROJECTED 2014	2015	2016	2017	2018
BEGINNING BAL-BOND FUNDS	0.00	0.00	0.00	0.00	0.00	0.00
BEGINNING BAL-BOND RESERVE FUNDS	0.00	0.00	0.00	0.00	0.00	0.00
BOND-FUNDED-SPENDING	0.00	0.00	0.00	0.00	0.00	0.00
BALANCE AFTER SPENDING-BOND FUNDS	0.00	0.00	0.00	0.00	0.00	0.00
BOND ISSUES-GROSS PROCEEDS	0.00	0.00	0.00	0.00	0.00	0.00
LESS: Addition to reserve	0.00	0.00	0.00	0.00	0.00	0.00
Issue cost	0.00	0.00	0.00	0.00	0.00	0.00
NET PROCEEDS	0.00	0.00	0.00	0.00	0.00	0.00
PRINCIPAL REDEMPTION	N/A	-113220.00	-111470.00	-111470.00	-111470.00	-111470.00
TOTAL BONDS OUTSTANDING		-113220.00	-224690.00	-336160.00	-447630.00	-559100.00
MONTHS NEW FUNDS AVAILABLE	N/A	0.00	0.00	0.00	0.00	0.00
INTEREST ON BOND FUNDS	0.00	0.00	0.00	0.00	0.00	0.00
INTEREST TO CASH FLOW	0.00	0.00	0.00	0.00	0.00	0.00
INTEREST ON RESERVE FUNDS	0.00	0.00	0.00	0.00	0.00	0.00
INTEREST TO CASH FLOW	0.00	0.00	0.00	0.00	0.00	0.00
ENDING BALANCE-BOND FUNDS	0.00	0.00	0.00	0.00	0.00	0.00
ENDING BALANCE-BOND RESERVE FUND	0.00	0.00	0.00	0.00	0.00	0.00
EXISTING DEBT SERVICE:						
Principal	$82,011	$113,220	$111,470	$111,470	$111,470	$111,470
Interest	$0	$0	$0	$0	$0	$0
TOTAL	82011.00	113220.00	111470.00	111470.00	111470.00	111470.00
NEW DEBT SERVICE:						
Principal	0.00	0.00	0.00	0.00	0.00	0.00
Interest	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL DEBT SERVICE:						
Principal	$82,011	$113,220	$111,470	$111,470	$111,470	$111,470
Interest	$0	$0	$0	$0	$0	$0
TOTAL	$82,011	$113,220	$111,470	$111,470	$111,470	$111,470
DEBT-SERVICE COVERAGE	12.16	5.34	6.65	7.57	8.64	9.58
DEBT SERVICE AS A PERCENT OF WATER REVENUE	0.04	0.05	0.04	0.04	0.04	0.04

EXHIBIT 6
BEATRICE, NEBRASKA WATER RATES
CASH FLOW STATEMENT - SPENDING REQUIREMENTS

DESCRIPTION	ACTUAL (BASE YEAR) 2013	PROJECTED 2014	2015	2016	2017	2018	ESCALATION RATE
GENERAL FUND-BEGINNING BALANCE	$752,000	$1,242,914	$1,066,389	$938,205	$798,100	$982,971	
CASH SPENDING: (INPUT ESCALATION FACTORS IN COLUMN I)							
SOURCE OF SUPPLY							
Purchased Water	$0	$0	$0	$0	$0	$0	0.00
Operating Expense	$953,999	$982,619	$1,012,098	$1,042,460	$1,073,734	$1,105,946	0.03
Maintenance Expense	$0	$0	$0	$0	$0	$0	0.03
Raw Water Pumping Expense	$0	$0	$0	$0	$0	$0	0.03
Other Source of Supply Expense	$0	$0	$0	$0	$0	$0	0.03
Total Source of Supply	$953,999	$982,619	$1,012,098	$1,042,460	$1,073,734	$1,105,946	
TREATMENT							
Chemicals (Fluoride in 2009)	$0	$0	$0	$0	$0	$0	0.02
Operating Expense	$0	$0	$0	$0	$0	$0	0.03
Maintenance Expense	$0	$0	$0	$0	$0	$0	0.03
Other Treatment Expense	$0	$0	$0	$0	$0	$0	0.00
Total Treatment	$0	$0	$0	$0	$0	$0	
DISTRIBUTION							
Pumping Power	$0	$0	$0	$0	$0	$0	0.03
Operating Exp - Pumping	$0	$0	$0	$0	$0	$0	0.03
Operating Exp - Dist Line	$0	$0	$0	$0	$0	$0	0.03
Operating Exp - Reservoir	$0	$0	$0	$0	$0	$0	0.03
Maintenance - Pumping	$0	$0	$0	$0	$0	$0	0.03
Maintenance - Mains	$0	$0	$0	$0	$0	$0	0.03
Maintenance - Services	$0	$0	$0	$0	$0	$0	0.03
Maintenance - Equipment	$0	$0	$0	$0	$0	$0	0.03
Maintenance - Meters	$0	$0	$0	$0	$0	$0	0.03
Maintenance - Vehicles	$105,332	$108,492	$111,747	$115,099	$118,552	$122,109	0.03
Other Distribution Expense	$0	$0	$0	$0	$0	$0	0.03
Total Distribution	$105,332	$108,492	$111,747	$115,099	$118,552	$122,109	
CUSTOMER COSTS							
Meter Reading	$0	$0	$0	$0	$0	$0	0.03
Billing & Collection	$129,900	$133,797	$137,811	$141,945	$146,204	$150,590	0.03
Total Customer Costs	$129,900	$133,797	$137,811	$141,945	$146,204	$150,590	

425	ADMINISTRATIVE & GENERAL						
426	A & G Salaries & Benefits	$58,575	$60,332	$62,142	$64,006	$65,927	$67,904	0.03
427	Office Supplies	$0	$0	$0	$0	$0	$0	0.03
428	Professional Services	$0	$0	$0	$0	$0	$0	0.03
429	Municipal Services	$446,963	$482,720	$521,338	$563,045	$608,088	$656,735	0.08
430	General Expenses	$0	$0	$0	$0	$0	$0	0.03
431	Uncollectable Accounts	$0	$0	$0	$0	$0	$0	0.03
432	Miscellaneous Expense	$0	$0	$0	$0	$0	$0	0.03
433		---	---	---	---	---	---	
434	Total Admin & General	$505,538	$543,052	$583,480	$627,051	$674,015	$724,640	
435								
436	Total O&M	$1,694,769	$1,767,960	$1,845,135	$1,926,556	$2,012,505	$2,103,284	
437								
438	REVENUE-FUNDED CAPITAL PROGRAMS:							
439	Contributions-in-Aid	$0	$0	$0	$0	$0	$0	
440	Revenue-Funded Programs	$453,488	$667,500	$757,700	$872,700	$667,000	$868,000	
441		---	---	---	---	---	---	
442	Total revenue-funded capital	$453,488	$667,500	$757,700	$872,700	$667,000	$868,000	
443								
444	DEBT SERVICE							
445	Bond Principal	$82,011	$113,220	$111,470	$111,470	$111,470	$111,470	
446	Bond Interest	$0	$0	$0	$0	$0	$0	
447		---	---	---	---	---	---	
448	Total debt service	$82,011	$113,220	$111,470	$111,470	$111,470	$111,470	
449								
450	NONRATE REVENUES							
451	System Capacity Charges	$0	$0	$0	$0	$0	$0	
452	Ammortization	$29,303	$0	$0	$0	$0	$0	
453	Intrest Expense	$35,732	$0	$0	$0	$0	$0	
454	Additional User Fees	$0	$0	$0	$0	$0	$0	
455	Depreciation	$507,899	$0	$0	$0	$0	$0	
456	Municipal/General	$44,668	$0	$0	$0	$0	$0	
457	Interest income from:							
458	Bond Funds-Construction	$0	$0	$0	$0	$0	$0	
459	Bond Reserve Funds	$0	$0	$0	$0	$0	$0	
460	General Fund Balance	$0	$48,052	$41,711	$36,129	$37,060	$42,755	
461		---	---	---	---	---	---	
462	Total nonrate revenue	$617,602	$48,052	$41,711	$36,129	$37,060	$42,755	
463								
464	FOR GENERAL FUND - OVER/(SHORT)	N/A	$1,242,914	$1,066,389	$938,205	$798,100	$982,971	
465								
466	TOTAL WATER REVENUE REQUIREMENTS	$1,612,666	$1,257,715	$1,606,205	$1,936,393	$1,955,814	$2,057,028	
467								
468	WATER REVENUE UNDER CURRENT RATES	$2,103,580	$2,114,103	$2,124,679	$2,135,307	$2,145,989	$2,156,724	
469								
470	TRIAL RATE INCREASE (%)		10.00%	9.00%	7.00%	7.00%	6.00%	
471								
472	WATER REVENUE UNDER TRIAL RATES	$2,103,580	$2,324,104	$2,544,409	$2,734,493	$2,938,785	$3,128,831	
473								
474	RATE REQUIREMENTS AS PERCENT	76.66%	54.12%	63.13%	70.81%	66.55%	65.74%	
475	OF REVENUE UNDER TRIAL RATES							
476								
477	GENERAL FUND-ENDING BALANCE	$1,242,914	$1,066,389	$938,205	$798,100	$982,971	$1,071,802	
478	TARGET GENERAL FUND BALANCE	$0	$0	$0	$0	$0	$0	
479								
480	GENERAL FUND-OVER/(SHORT)	$1,242,914	$1,066,389	$938,205	$798,100	$982,971	$1,071,802	
481	---	---	---	---	---	---	---	

EXHIBIT 7
BEATRICE, NEBRASKA WATER RATES
CLASSIFICATION OF NET WATER REVENUE REQUIREMENT BY COST FUNCTION

DESCRIPTION	TOTAL REVENUE REQUIREMEN	BASE	EXTRA CAPACITY MAX DAY	EXTRA CAPACITY MAX HOUR	CUSTOMER BILLING	METERS & SERVICES	BASIS OF ASSIFICATION
SOURCE OF SUPPLY							
Purchased Water	$0	$0					100% BASE
Operating Expense	$953,999	$477,000	$333,900	$143,100			AVG/MAX DAY
Maintenance Expense	$0	$0	$0				AVG/MAX DAY
Raw Water Pumping Expense	$0	$0					100% BASE
Other Source of Supply Expense	$0	$0					
Total Source of Supply	$953,999	$477,000	$333,900	$143,100	$0	$0	
TREATMENT							
Chemicals (Fluoride in 2009)	$0	$0	$0				100% BASE
Operating Expense	$0	$0	$0				AVG/MAX DAY
Maintenance Expense	$0	$0	$0				AVG/MAX DAY
Other Treatment Expense	$0	$0					ASSUMED BASE
Total Treatment	$0	$0	$0	$0	$0	$0	
DISTRIBUTION							
Pumping Power	$0	$0	$0				AVG/MAX DAY
Operating Exp - Pumping	$0	$0	$0				AVG/MAX DAY
Operating Exp - Dist Line	$0	$0	$0				AVG/MAX DAY
Operating Exp - Reservoir	$0	$0	$0				AVG/MAX DAY
Maintenance - Pumping	$0	$0	$0				AVG/MAX DAY
Maintenance - Mains	$0	$0		$0			AVG DAY/MAX HR
Maintenance - Services	$0						$0 100% METERS
Maintenance - Reservoirs	$0	$0	$0	$0			AVG/MAX DAY
Maintenance - Meters	$0						$0 100% METERS
Maintenance - Hydrants	$105,332	$105,332					AS PUB SERVICE
Other Distribution Expense	$0	$0					ASSUMED BASE
Total Distribution	$105,332	$105,332	$0	$0	$0	$0	
CUSTOMER COSTS							
Meter Reading	$0				$0		100% CUST BILL
Billing & Collection	$129,900				$129,900		100% CUST BILL
Total Customer Costs	$129,900	$0	$0	$0	$129,900	$0	

529	ADMINISTRATIVE & GENERAL						
530	A & G Salaries & Benefits	$58,575	$58,575				100% BASE
531	Office Supplies	$0	$0				100% BASE
532	Professional Services	$0	$0				100% BASE
533	Municipal Services	$446,963	$446,963				100% BASE
534	General Expenses	$0	$0				100% BASE
535	Uncollectable Accounts	$0	$0				100% BASE
536	Miscellaneous Expense	$0	$0				100% BASE
537							
538	Total Admin & General	$505,538	$505,538	$0	$0	$0	$0
539							
540	Total O&M	$1,694,769	$1,087,870	$333,900	$143,100	$129,900	$0
541		$1	$1	$0	$0	$0	$0
542	REVENUE-FUNDED CAPITAL PROGRAMS:						
543	Contributions-in-Aid	$0	$0	$0	$0		$0 \S % CONTRIB
544	Revenue-Funded Programs	$453,488	$260,238	$48,937	$144,313		$0 TOTAL PLANT
545							
546	Total revenue-funded capital	$453,488	$260,238	$48,937	$144,313	$0	$0
547							
548	DEBT SERVICE						
549	Bond Principal	$82,011	$47,063	$8,850	$26,098		$0 TOTAL PLANT
550	Bond Interest	$0	$0	$0	$0		$0 TOTAL PLANT
551							
552	Total debt service	$82,011	$47,063	$8,850	$26,098	$0	$0
553							
554	NONRATE REVENUES						
555	System Capacity Charges	$0		$0	$0		% MAX DAY-HOUR
556	Ammortization	$29,303	$0	$0	$0		$0 \S % CONTRIB
557	Intrest Expense	$35,732	$22,936	$7,040	$3,017	$2,739	$0 TOTAL O&M
558	Additional User Fees	$0	$0				AS TO FUNCTION
559	Depreciation	$507,899					
560	Municipal/General	$44,668					
561	Interest income from:						
562	Bond Funds-Construction	$0	$0				100% BASE
563	Bond Reserve Funds	$0	$0	$0	$0		$0 % RATE BASE
564	General Fund Balance	$0	$0	$0	$0		$0 % RATE BASE
565							
566	Total nonrate revenue	$617,602	$22,936	$7,040	$3,017	$2,739	$0
567							
568	TOTAL REVENUE REQUIREMENTS	$1,612,666	$1,372,234	$384,647	$310,495	$127,161	$0
569		$1	$1	$0	$0	$0	$0
570							

EXHIBIT 8
BEATRICE, NEBRASKA WATER RATES
DISTRIBUTION OF TOTAL CAPITAL ASSETS BY COST FUNCTION

DESCRIPTION	TOTAL PLANT ASSETS (At Cost)	BASE	EXTRA CAPACITY MAX DAY	EXTRA CAPACITY MAX HOUR	METERS & SERVICES	BASIS OF CLASSIFICATION
SOURCE OF SUPPLY & TERMINAL STORAGE						
Watershed & Land	$615,000	$615,000				100% BASE
Raw Water Transmission	$0	$0				100% BASE
Structures	$1,280,790	$1,280,790				100% BASE
Equipment	$0	$0				100% BASE
Other A	$0	$0				100% BASE
Other B	$0	$0				100% BASE
Total Source of Supply	$1,895,790	$1,895,790	$0	$0	$0	100% BASE
TREATMENT						
Structures	$0	$0	$0			AVG/MAX DAY
Equipment	$0	$0	$0			AVG/MAX DAY
Other A	$0	$0	$0			AVG/MAX DAY
Other B	$0	$0	$0			AVG/MAX DAY
Total Treatment	$0	$0	$0	$0	$0	AVG/MAX DAY
DISTRIBUTION						
Land & Land Rights	$20,000	$13,244	$6,756			AVG/MAX DAY
Structures and Improvements	$8,734,000	$5,783,671	$2,950,329			AVG/MAX DAY
Distribution Mains	$19,008,000	$7,866,958		$11,141,042		AVG DAY/MAX HR
Reservoirs and Tanks	$2,430,000	$1,609,150	$820,850			AVG/MAX DAY
Services	$0				$0	100% CUSTOMER
Meters	$0				$0	100% CUSTOMER
Hydrants	$0	$0				AS PUB SERVICE
Other A	$0	$0				ASSUMED BASE
Other B	$0	$0				ASSUMED BASE
Total Distribution	$30,192,000	$15,273,023	$3,777,935	$11,141,042	$0	
GENERAL PLANT						
Structures	$2,019,916	$2,019,916				100% BASE
Office Equipment	$0	$0				100% BASE
Tools and Shop Equipment	$901,717	$901,717				100% BASE
Lab Equipment	$0	$0				100% BASE
Other A	$0	$0				100% BASE
Other B	$0	$0				100% BASE
Total General Plant	$2,921,633	$2,921,633	$0	$0	$0	

620 TOTAL PLANT IN SERVICE	$35,009,423	$20,090,446	$3,777,935	$11,141,042	$0	
621 % of Total Plant in Service	$1	$1	$0	$0	$0	
622 Less Contributions in Aid:						
623 Reservoirs & Pumping	$0	$0	$0			AVG/MAX DAY
624 Distribution Mains	$0	$0		$0		AVG DAY/MAX HR
625 Services & Meters	$0				$0	100% CUSTOMER
626 Hydrants	$0	$0				AS PUB SERVICE
627	---	---	---	---	---	
628 Total Contributions-in-Aid	$0	$0	$0	$0	$0	
629 % of Total Contributions-in-Aid	$0	$0	$0	$0	$0	
630 TOTAL PLANT AT UTILITY COST	$35,009,423	$20,090,446	$3,777,935	$11,141,042	$0	
631 % of Total Plant at Cost	$1	$1	$0	$0	$0	
632 Less Accumulated Depreciation:						
633 Source of Water Supply	$0	$0				AS SOURCE CAP
634 Water Treatment	$0	$0	$0	$0	$0	AS TREAT CAP
635 Water Distribution	$0	$0	$0	$0	$0	AS DIST CAP
636 General Plant	$420,000	$420,000				AS G.P. CAP
637	---	---	---	---	---	
638 Total Depreciation	$420,000	$420,000	$0	$0	$0	
639						
640 Plus Working Capital:						
641 Accounts Receivables (1 Mo Water Revenue)	$175,298	$175,298				100% BASE
642 Inventories (.5 Mos Oper Expense)	$70,615	$40,523	$7,620	$22,472	$0	AS TOTAL PLANT
643 Operating Capital (1.5 Mos Oper Expense)	$211,846	$211,846				100% BASE
644 Other Working Capital	$0	$0				ASSUMED BASE
645	---	---	---	---	---	
646 Total Working Capital	$457,760	$427,668	$7,620	$22,472	$0	
647						
648 TOTAL RATE BASE	$35,047,183	$20,098,114	$3,785,555	$11,163,514	$0	
649 % of Total Rate Base	1.00	0.57	0.11	0.32	0.00	
650 ---	---	---	---	---	---	

EXHIBIT 9
BEATRICE, NEBRASKA WATER RATES
ASSIGNMENT OF DISTRIBUTED COSTS TO CUSTOMER CLASSES

CUSTOMER CLASS		TOTAL REVENUE REQUIREMENT	EXTRA CAPACITY BASE	EXTRA CAPACITY MAX. DAY	EXTRA CAPACITY MAX. HOUR	CUSTOMER BILLING	METERS & SERVICES
RESIDENTIAL		$661,257	$305,220	$127,842	$115,455	$112,740	$0
COMMERCIAL		$397,147	$224,682	$94,108	$63,981	$14,376	$0
	0.00	$414,058	$414,058	$0	$0	$0	$0
INDUSTRIAL		$722,073	$428,274	$162,696	$131,058	$45	$0
		$0	$0	$0	$0	$0	$0
		$0	$0	$0	$0	$0	$0
TOTAL		$1,612,666	$1,372,234	$384,647	$310,495	$127,161	$0

SUMMARY

CUSTOMER CLASS		TOTAL WATER RELATED	COST PER MGAL	TOTAL CUSTOMER RELATED	COST PER EQUIV METER
RESIDENTIAL		$548,516.88	$1.24	$112,740.42	$1.87
COMMERCIAL		$382,771.41	$1.18	$14,375.53	$1.89
	0.00	$414,058.28	$0.69	$0.00	$0.00
INDUSTRIAL		$722,028.20	$1.17	$45.28	$0.19
		$0.00	$0.00	$0.00	$0.00
		$0.00	$0.00	$0.00	$0.00
TOTAL		$2,067,374.77	$1.04	$127,161.23	$1.87

EXHIBIT 10
BEATRICE, NEBRASKA WATER RATES
TYPICAL MONTHLY BILL FOR BASE YEAR
FOR AVERAGE METER SIZE IN EACH CUSTOMER CLASS

CUSTOMER CLASS	EXISTING RATES 2013	C-O-S* RATES 2013
RESIDENTIAL	$24.14	$11.07
COMMERCIAL	$87.55	$52.12
	$0.00	$0.00
INDUSTRIAL	$11,079.91	$30,086.39
	$0.00	$0.00
	$0.00	$0.00

* COST-OF-SERVICE

APPENDIX "D"

Historical Sewer Data
From City of Beatrice Records

Flow Data: September 2011 to August 2013

Top 15 Customers

SEWER

	Residential			Commercial		
	Customers	Usage(gallons)	Amount	Customers	Usage(gallons)	Amount
Aug-2013	4945	18,507,000	$ 89,306	557	22,211,000	$ 40,718
Jul-2013	4967	18,543,000	$ 89,611	557	23,237,000	$ 41,780
Jun-2013	4955	18,763,000	$ 89,929	561	16,982,000	$ 35,745
May-2013	4930	18,796,000	$ 89,733	560	15,480,000	$ 34,276
Apr-2013	4946	18,995,000	$ 90,302	556	14,231,000	$ 33,226
Mar-2013	4929	19,133,000	$ 90,403	556	14,257,000	$ 33,390
Feb-2013	4917	19,209,000	$ 90,430	557	14,689,000	$ 33,898
Jan-2013	4912	19,308,000	$ 90,577	554	13,538,000	$ 32,846
Dec-2012	4933	19,285,000	$ 90,752	559	12,912,000	$ 32,197
Nov-2012	4944	19,324,000	$ 90,946	561	15,239,000	$ 34,563
Oct-2012	4961	19,304,000	$ 91,085	561	18,447,000	$ 37,751
Sep-2012	4978	19,468,000	$ 87,159	563	21,771,000	$ 47,702
Aug-2012	4966	19,525,000	$ 87,148	565	26,363,000	$ 53,899
Jul-2012	4948	19,588,000	$ 87,089	564	25,176,000	$ 54,250
Jun-2012	4921	19,758,000	$ 87,146	561	23,003,000	$ 50,037
May-2012	4930	19,778,000	$ 87,274	562	21,581,000	$ 46,868
Apr-2012	4899	19,735,000	$ 86,882	559	16,788,000	$ 38,100
Mar-2012	4909	20,119,000	$ 87,719	555	16,646,000	$ 37,780
Feb-2012	4900	19,620,000	$ 86,671	551	17,448,000	$ 39,292
Jan-2012	4907	19,624,000	$ 86,748	554	15,438,000	$ 35,375
Dec-2011	4923	19,628,000	$ 86,915	555	16,023,000	$ 36,591
Nov-2011	4942	19,747,000	$ 87,334	555	18,149,000	$ 40,668
Oct-2011	4942	19,807,000	$ 87,449	560	17,474,000	$ 39,412
Sep-2011	4935	19,919,000	$ 83,334	558	21,114,000	$ 41,033

Beatrice Board of Public Works Water Customers Sales October 2012-September 2013

	Residential		
	customers	usage (gallons)	amount
Oct-2012	5008	43,478,000	$ 134,326
Nov-2012	5006	28,716,000	$ 107,793
Dec-2012	4986	24,181,000	$ 99,513
Jan-2013	4965	20,553,000	$ 92,821
Feb-2013	4965	18,656,000	$ 89,349
Mar-2013	4977	18,585,000	$ 89,112
Apr-2013	4988	19,629,000	$ 91,264
May-2013	4980	20,436,000	$ 92,634
Jun-2013	5009	29,426,000	$ 109,133
Jul-2013	5021	44,420,000	$ 136,121
Aug-2013	5019	58,458,000	$ 161,165
Sep-2013	5013	43,069,000	$ 133,696
2013 totals	59937	369,607,000	$ 1,336,927

	Commercial		
	customers	usage (gallons)	amount
Oct-2012	655	28,516,000	$ 61,644
Nov-2012	646	19,526,000	$ 45,340
Dec-2012	621	15,121,000	$ 37,049
Jan-2013	612	15,411,000	$ 37,486
Feb-2013	615	16,430,000	$ 39,332
Mar-2013	614	16,543,000	$ 39,551
Apr-2013	617	18,341,000	$ 42,839
May-2013	634	23,234,000	$ 51,896
Jun-2013	645	24,880,000	$ 55,071
Jul-2013	646	36,503,000	$ 76,047
Aug-2013	649	33,399,000	$ 70,490
Sep-2013	653	29,504,000	$ 63,527
2013 totals	7607	277,408,000	$ 620,274

	Contract Sales		
	customers	usage (gallons)	amount
Oct-2012	2	58,374,000	$ 24,289
Nov-2012	2	53,271,000	$ 22,530
Dec-2012	2	46,282,000	$ 19,852
Jan-2013	2	54,310,000	$ 24,359
Feb-2013	2	42,690,000	$ 19,809
Mar-2013	2	49,862,000	$ 22,772
Apr-2013	2	51,599,000	$ 23,592
May-2013	2	49,275,000	$ 22,625
Jun-2013	2	61,842,000	$ 27,852
Jul-2013	2	63,606,000	$ 28,468
Aug-2013	2	55,984,000	$ 25,266
Sep-2013	2	56,075,000	$ 24,651
2013 totals	24	643,170,000	$ 286,065

Beatrice Board of Public Works sewer Customers Sales October 2012-September 2013

	Residential		
	customers	usage (gallons)	amount
Oct-2012	4961	19,303,965	91,085
Nov-2012	4944	19,323,530	90,946
Dec-2012	4933	19,284,906	90,752
Jan-2013	4912	19,307,574	90,577
Feb-2013	4917	19,208,762	90,430
Mar-2013	4929	19,133,015	90,403
Apr-2013	4946	18,994,708	90,302
May-2013	4930	18,796,025	89,733
Jun-2013	4955	18,763,183	89,929
Jul-2013	4967	18,543,153	89,611
Aug-2013	4945	18,506,728	89,306
Sep-2013	4967	18,410,347	89,342
2013 totals	59306	227,575,896	$ 1,082,416

	Commercial		
	customers	usage (gallons)	amount
Oct-2012	561	18,447,000	43,359
Nov-2012	561	15,239,000	36,934
Dec-2012	559	12,912,000	32,217
Jan-2013	554	13,538,000	33,162
Feb-2013	557	14,689,000	35,786
Mar-2013	556	14,257,000	34,903
Apr-2013	556	14,231,000	34,857
May-2013	560	15,480,000	37,417
Jun-2013	561	16,982,000	40,462
Jul-2013	557	23,237,000	53,071
Aug-2013	557	22,211,000	50,973
Sep-2013	560	20,429,000	47,406
2013 totals	6699	201,652,000	$ 480,546

SEWER October 2012-Sept 2013

RESIDENTIAL	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	4961	4944	4933	4912	4917	4929	4946	4930	4955	4967	4945	4967	4942	AVG
use(Mgal)	19,304	19,324	19,285	19,308	19,209	19,133	18,995	18,796	18,763	18,543	18,507	18,410	227,577	
Revenues	$91,085	$90,946	$90,752	$90,577	$90,430	$90,403	$90,302	$89,733	$89,929	$89,611	$89,306	$89,342	$1,082,416	
Avg Use(Mgal)	3.89	3.91	3.91	3.93	3.91	3.88	3.84	3.81	3.79	3.73	3.74	3.71	3.84	AVG
Avg Revenue ($/User)	$18.36	$18.40	$18.40	$18.44	$18.39	$18.34	$18.26	$18.20	$18.15	$18.04	$18.06	$17.99	$ 18.25	AVG

INSTITUTIONAL (CHURCHES, SCHOOLS, HOPITALS/NURSING HOMES)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	35	35	35	35	35	35	35	35	35	35	35	35	35	AVG
use(Mgal)	3,740	4,264	6,315	3,221	3,389	2,878	2,571	2,515	2,764	2,451	3,280	3,529	64,095	
Revenues	$ 7,547	$ 8,553	$ 12,491	$ 6,551	$ 6,874	$ 5,893	$ 5,304	$ 5,196	$ 5,673	$ 5,073	$ 6,664	$ 7,143	$ 82,962	
Avg Use(Mgal)	106.85	121.82	180.42	92.02	96.83	82.23	73.47	71.86	78.96	70.03	93.71	100.83	97.42	AVG
Avg Revenue ($/User)	$ 215.63	$ 244.37	$ 356.89	$ 187.17	$ 196.40	$ 168.37	$ 151.54	$ 148.46	$ 162.09	$ 144.94	$ 190.40	$ 204.09	$ 189.83	AVG

COMMERCIAL	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	526	526	524	519	522	521	521	525	526	522	522	525	523	AVG
use(Mgal)	14,707	10,975	6,597	10,317	11,300	11,379	11,660	12,965	14,218	20,786	18,931	16,900	160,736	
Revenues	$35,812	$28,381	$19,726	$26,611	$28,912	$29,010	$29,553	$32,221	$34,789	$47,998	$44,309	$40,263	$397,585	
Avg Use(Mgal)	27.96	20.87	12.59	19.88	21.65	21.84	22.38	24.70	27.03	39.82	36.27	32.19	25.60	AVG
Avg Revenue ($/User)	$ 68.08	$ 53.96	$ 37.65	$ 51.27	$ 55.39	$ 55.68	$ 56.72	$ 61.37	$ 66.14	$ 91.95	$ 84.88	$ 76.69	$ 60.41	AVG

TOTALS	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	TOTALS/AVG	
Users	5522	5505	5492	5466	5474	5485	5502	5490	5516	5524	5502	5527	5500	AVG
use(Mgal)	37,751	34,563	32,197	32,846	33,898	33,390	33,226	34,276	35,745	41,780	40,718	38,839	429,229	
Revenues	$134,444	$127,880	$122,969	$123,739	$126,216	$125,306	$125,159	$127,150	$130,391	$142,682	$140,279	$136,748	$1,562,963	
Avg Use(Mgal)													35,769.08	AVG
Avg Revenue ($/User)													35,769.08	AVG

Top 15 sewer customers October 2012 to Sept 2013

		billed
BSDC	3000 Lincoln	$ 33,221.68
SCC	4771 W Scott	$ 16,615.26
Beatrice Communnity Hospital	4800 Hospital Parkway	$ 10,090.66
Exmark	2101 Ashland	$ 5,721.40
Store Kraft	500 Irving	$ 3,246.90
SJM Rentals	2205 N 6th	$ 2,733.82
John Huninghake apartments	726 W Mary	$ 2,495.46
Knowles Apartments	322 Court	$ 2,333.86
J & A Investments apartments	521 N 11th	$ 1,512.00
Beatrice Houseing - apts	206 S 16th	$ 1,386.00
Pinnacle Bank	523 Court	$ 1,356.18
Waltke Rentals - apartments	820 N 5th	$ 1,260.00
TO Haas	1800 N 6th	$ 1,142.06
Mom's Corner	564 W Court	$ 1,075.40
Don Hamill apartments	1810 May	$ 1,008.00
	Totals	$ 85,198.68

F:\Projects\013-2627\Data\City Supplied Data\[Top customers.xlsx]combined

APPENDIX "E"

Cost-of-Service Review
Municipal Sewer Rates

Name of your utility: BEATRICE, NEBRASKA SEWER RATES

F:\Projects\013-2627\Data\Cost of Service Data\[COST-OF-SERVICE_SEWER.xlsx]A

EXHIBIT 1
BEATRICE, NEBRASKA SEWER RATES
CONTROL PARAMETERS AND RATES

D

FINANCIAL CONTROL PARAMETERS:

Interest earning rate - Fund balances	0.043
Interest rate - New Bond Issues	0.045
Bond issue costs (% of gross proceeds)	0.010
Bond reserve fund - years of debt service (0 if N/A)	1.00
Bond life - years	20
Leave bond interest earnings in bond fund? Y or N	Y

WATER RATES AND SERVICE CHARGES:

Year (input first year = base year)	2013	2014	2015	2016	2017	2018
Monthly service charge per equivalent meter:						
RESIDENTIAL	$10.50	$11.13	$11.69	$12.15	$12.52	$12.77
COMMERCIAL	$10.50	$11.13	$11.69	$12.15	$12.52	$12.77
	0	0	0	0	0	0
	0	0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
Current water rate (volume charge):						
RESIDENTIAL	$2.02	$2.14	$2.25	$2.34	$2.41	$2.46
COMMERCIAL	$2.02	$2.14	$2.25	$2.34	$2.41	$2.46
		$0.00	$0.00	$0.00	$0.00	$0.00
		$0.00	$0.00	$0.00	$0.00	$0.00
		0	0	0	0	0
		0	0	0	0	0

COST ALLOCATION AND PEAKING FACTORS:

Systemwide factors:	AVERAGE	MAX	AVG/MAX
Average day/maximum day =	1,310,000	1,630,000	0.80
Average day/maximum hour =	1,310,000	5,069,856	0.26

Capacity factors by customer class:		Max-Day	Max-Hour
RESIDENTIAL		1.50	4.00
COMMERCIAL		1.25	2.00
		0.00	0.00
	0	0	0
		0	0
		0	0

EXHIBIT 2
BEATRICE, NEBRASKA SEWER RATES
WATER CONSUMPTION BY CUSTOMER CLASS
UNIT = MGAL

CUSTOMER CLASS	ACTUAL 2013	PROJECTED 2014	2015	2016	2017	2018
RESIDENTIAL	236,397	238,761	241,149	243,560	245,996	248,456
COMMERCIAL	235,860	238,219	240,601	243,007	245,437	247,891
	0	0	0	0	0	0
0	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	472,257	476,980	481,749	486,567	491,433	496,347

PERCENT OF TOTAL

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	50.06%	50.06%	50.06%	50.06%	50.06%	50.06%
COMMERCIAL	49.94%	49.94%	49.94%	49.94%	49.94%	49.94%
	0	0	0	0	0	0
0	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

CONSUMPTION PER METERED ACCOUNT

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	4.00	4.00	4.00	4.00	4.00	4.00
COMMERCIAL	35.16	35.16	35.16	35.16	35.16	35.16
	0	0	0	0	0	0
0	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
AVERAGE METER	7.17	7.17	7.17	7.17	7.17	7.17

EXHIBIT 2A
BEATRICE, NEBRASKA SEWER RATES
WATER CONSUMPTION BY CUSTOMER CLASS
WEIGHTED BY MAXIMUM-DAY CAPACITY FACTORS

CUSTOMER CLASS	ACTUAL 2013	2014	PROJECTED 2015	2016	2017	2018
RESIDENTIAL	354,596	358,141	361,723	365,340	368,993	372,683
COMMERCIAL	294,825	297,773	300,751	303,758	306,796	309,864
0	0	0	0	0	0	0
0	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	649,421	655,915	662,474	669,099	675,790	682,547

PERCENT OF TOTAL

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	54.60%	54.60%	54.60%	54.60%	54.60%	54.60%
COMMERCIAL	45.40%	45.40%	45.40%	45.40%	45.40%	45.40%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

EXHIBIT 2B
BEATRICE, NEBRASKA SEWER RATES
WATER COMSUMPTION BY CUSTOMER CLASS
WEIGHTED BY MAXIMUM-HOUR CAPACITY FACTORS

CUSTOMER CLASS	ACTUAL 2013	2014	2015 PROJECTED	2016	2017	2018
RESIDENTIAL	945,588	955,044	964,594	974,240	983,983	993,822
COMMERCIAL	471,720	476,437	481,202	486,014	490,874	495,782
	0	0	0	0	0	0
0	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	1,417,308	1,431,481	1,445,796	1,460,254	1,474,856	1,489,605

PERCENT OF TOTAL

CUSTOMER CLASS	2013	2014	2015	2016	2017	2018
RESIDENTIAL	66.72%	66.72%	66.72%	66.72%	66.72%	66.72%
COMMERCIAL	33.28%	33.28%	33.28%	33.28%	33.28%	33.28%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

EXHIBIT 3
BEATRICE, NEBRASKA SEWER RATES
METERS AND EQUIVALENT METERS BY CUSTOMER CLASS
BASE-YEAR DATA

	NUMBER OF METERS BY SIZE							
Meter Size	5/8- 3/4-IN.	1-IN.	1 1/2-IN.	2-IN.	3-IN.	4-IN.	6-IN.	8-IN.
AWWA Capacity Rating Factor (Equivalent meter)	1	2	3	5	10	17	33	53
RESIDENTIAL								
Actual Meters	4,930							
Equivalent Meters	4,930	0	0	0	0	0	0	0
COMMERCIAL								
Actual Meters	559	0	0	0	0	0		
Equivalent Meters	559	0	0	0	0	0	0	0
Actual Meters	0	0	0	0	0			
Equivalent Meters	0	0	0	0	0	0	0	0
0								
Actual Meters	0				0			
Equivalent Meters	0	0	0	0	0	0	0	0
Actual Meters								
Equivalent Meters	0	0	0	0	0	0	0	0
Actual Meters								
Equivalent Meters	0	0	0	0	0	0	0	0
TOTAL Actual Meters	5,489	0	0	0	0	0	0	0
TOTAL Equivalent Meters	5,489	0	0	0	0	0	0	0

		SUMMARY		
CLASS		TOTAL ACTUAL METERS	TOTAL EQUIV. METERS	PERCENT OF TOTAL
RESIDENTIAL				
Actual Meters		4,930		89.82%
Equivalent Meters			4,930	89.82%
COMMERCIAL				
Actual Meters		559		10.18%
Equivalent Meters			559	10.18%
Actual Meters		0		0.00%
Equivalent Meters			0	0.00%
	0			
Actual Meters		0		0.00%
Equivalent Meters			0	0.00%
Actual Meters		0		0.00%
Equivalent Meters			0	0.00%
Actual Meters		0		0.00%
Equivalent Meters			0	0.00%
		---	---	---
TOTAL Actual Meters		5,489		100.00%
TOTAL Equivalent Meters			5,489	100.00%

EXHIBIT 3A
BEATRICE, NEBRASKA SEWER RATES
FORECAST OF METERS IN-USE BY CUSTOMER CLASS
(EQUIVALENT METERS IN PROPORTION TO BASE-YEAR DATA)

CUSTOMER CLASS	PROJECTED GROWTH RATE	ACTUAL 2013	2014	2015	2016	2017	2018	D
RESIDENTIAL								
Actual Meters	0	4,930	4,979	5,029	5,079	5,130	5,181	WORKSHE
Equivalent Meters		4,930	4,979	5,029	5,079	5,130	5,181	
COMMERCIAL								
Actual Meters	0	559	565	570	576	582	588	WORKSHE
Equivalent Meters		559	565	570	576	582	588	
Actual Meters	0	0	0	0	0	0	0	WORKSHE
Equivalent Meters		0	0	0	0	0	0	
	0							
Actual Meters	0	0	0	0	0	0	0	WORKSHE
Equivalent Meters		0	0	0	0	0	0	
Actual Meters		0	0	0	0	0	0	WORKSHE
Equivalent Meters		0	0	0	0	0	0	
Actual Meters		0	0	0	0	0	0	WORKSHE
Equivalent Meters		0	0	0	0	0	0	
TOTAL Actual Meters		5,489	5,544	5,599	5,655	5,712	5,769	
TOTAL Equivalent Meters		5,489	5,544	5,599	5,655	5,712	5,769	

EXHIBIT 4
BEATRICE, NEBRASKA SEWER RATES
CAPITAL PROGRAMS PROJECTIONS

DESCRIPTION	ACTUAL (BASE YEAR) 2013	2014	2015	PROJECTED 2016	2017	2018
BOND FUNDED						
Buildings and Structures						
Distribution & Storage						
Water Treatment						
Project A		0				
Project B		0				
TOTAL	0	0	0	0	0	0
CONTRIBUTIONS-IN-AID						
For Collection System Improvements	$0	$0	$0	$0	$0	$0
For Services						
Project B						
Project C	0					
Project D	0					
TOTAL	0	0	0	0	0	0
Transfer to Cash Flow Schedule	0	0	0	0	0	0
REVENUE FUNDED						
Fleet Equipment	$44,600	$189,000	$24,000	$100,000	$103,000	$106,090
WWTP Improvements	4,000	0	0	15,282	22,318	96,612
Collection System	61,500	0	0	50,000	50,000	50,000
Work In Progress	515,000	325,000	510,000	200,000	206,000	212,180
New Sewer Truck		350,000				100,000
TOTAL	625,100	864,000	534,000	365,282	381,318	564,882
Transfer to Cash Flow Schedule	-625,100	-864,000	-534,000	-365,282	-381,318	-564,882
TOTAL CAPITAL PROGRAMS	625,100	864,000	534,000	365,282	381,318	564,882

EXHIBIT 5
BEATRICE, NEBRASKA SEWER RATES
BOND FUNDS, RESERVE FUNDS, AND DEBT SERVICE

DESCRIPTION	ACTUAL (BASE YEAR) 2013	PROJECTED 2014	2015	2016	2017	2018
BEGINNING BAL-BOND FUNDS		0	0	0	0	0
BEGINNING BAL-BOND RESERVE FUNDS	0	0	0	0	0	0
BOND-FUNDED-SPENDING	0	0	0	0	0	0
BALANCE AFTER SPENDING-BOND FUNDS	0	0	0	0	0	0
BOND ISSUES-GROSS PROCEEDS	0	0				
LESS: Addition to reserve	0	0	0	0	0	0
Issue cost	0	0	0	0	0	0
NET PROCEEDS	0	0	0	0	0	0
PRINCIPAL REDEMPTION	N/A	0	-161,583	-161,583	-161,583	-161,583
TOTAL BONDS OUTSTANDING	0	0	-161,583	-323,166	-484,749	-646,332
MONTHS NEW FUNDS AVAILABLE	N/A	0	0	0	0	0
INTEREST ON BOND FUNDS	0	0	0	0	0	0
INTEREST TO CASH FLOW	0	0	0	0	0	0
INTEREST ON RESERVE FUNDS	0	0	0	0	0	0
INTEREST TO CASH FLOW	0	0	0	0	0	0
ENDING BALANCE-BOND FUNDS	0	0	0	0	0	0
ENDING BALANCE-BOND RESERVE FUND	0	0	0	0	0	0
EXISTING DEBT SERVICE:						
Principal	148,885	162,998	161,583	161,583	161,583	161,583
Interest	0	0	0	0	0	0
TOTAL	148,885	162,998	161,583	161,583	161,583	161,583
NEW DEBT SERVICE:						
Principal	0	0	0	0	0	0
Interest	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0
TOTAL DEBT SERVICE:						
Principal	148,885	162,998	161,583	161,583	161,583	161,583
Interest	0	0	0	0	0	0
TOTAL	148,885	162,998	161,583	161,583	161,583	161,583
DEBT-SERVICE COVERAGE	2.75	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
DEBT SERVICE AS A PERCENT OF WATER REVENUE	0	0	0	0	0	0

EXHIBIT 6
BEATRICE, NEBRASKA SEWER RATES
CASH FLOW STATEMENT - SPENDING REQUIREMENTS

DESCRIPTION	ACTUAL (BASE YEAR) 2013	PROJECTED 2014	2015	2016	2017	2018	ESCALATION RATE
GENERAL FUND-BEGINNING BALANCE	0	-364,867	-955,260	-1,174,192	-1,183,194	-1,175,731	
CASH SPENDING: (INPUT ESCALATION FACTORS IN COLUMN I)							
SOURCE OF SUPPLY							
	0	0	0	0	0	0	0.03
Operating Expense	1,010,178	1,040,483	1,071,698	1,103,849	1,136,964	1,171,073	0.03
	0	0	0	0	0	0	0.03
	0	0	0	0	0	0	0.03
		0	0	0	0	0	0.03
Total	1,010,178	1,040,483	1,071,698	1,103,849	1,136,964	1,171,073	
TREATMENT							
Chemicals	0	0	0	0	0	0	0.03
Operating Expense	0	0	0	0	0	0	0.03
Maintenance Expense	0	0	0	0	0	0	0.03
Other Treatment Expense	0	0	0	0	0	0	0.03
Total Treatment	0	0	0	0	0	0	
COLLECTION							
Pumping Power	0	0	0	0	0	0	0.03
Operating Exp - Pumping	0	0	0	0	0	0	0.03
Operating Exp - Dist Line	0	0	0	0	0	0	0.03
Operating Exp - Reservoir	0	0	0	0	0	0	0.03
Maintenance - Pumping	0	0	0	0	0	0	0.03
Maintenance - Mains	0	0	0	0	0	0	0.03
Maintenance - Services	0	0	0	0	0	0	0.03
Maintenance - Reservoirs	0	0	0	0	0	0	0.03
Maintenance - Meters	0	0	0	0	0	0	0.03
Maintenance - Hydrants	0	0	0	0	0	0	0.03
Other Distribution Expense	0	0	0	0	0	0	0.03
Total Distribution	0	0	0	0	0	0	
CUSTOMER COSTS							
Meter Reading	0	0	0	0	0	0	0
Billing & Collection	0	0	0	0	0	0	0
Total Customer Costs	0	0	0	0	0	0	

425	ADMINISTRATIVE & GENERAL						
426	A & G Salaries & Benefits	0	0	0	0	0	0	0
427	Office Supplies	0	0	0	0	0	0	0
428	Professional Services	0	0	0	0	0	0	0
429	Insurance and Taxes	0	0	0	0	0	0	0
430	Other Expense A	0	0	0	0	0	0	0
431	Other Expense B	0	0	0	0	0	0	0
432	Miscellaneous Expense	0	0	0	0	0	0	0
433		---	---	---	---	---	---	
434	Total Admin & General	0	0	0	0	0	0	
435								
436	Total O&M	1,010,178	1,040,483	1,071,698	1,103,849	1,136,964	1,171,073	
437								
438	REVENUE-FUNDED CAPITAL PROGRAMS:							
439	Contributions-in-Aid	0	0	0	0	0	0	
440	Revenue-Funded Programs	625,100	864,000	534,000	365,282	381,318	564,882	
441		---	---	---	---	---	---	
442	Total revenue-funded capital	625,100	864,000	534,000	365,282	381,318	564,882	
443								
444	DEBT SERVICE							
445	Bond Principal	148,885	162,998	161,583	161,583	161,583	161,583	
446	Bond Interest	0	0	0	0	0	0	
447		---	---	---	---	---	---	
448	Total debt service	148,885	162,998	161,583	161,583	161,583	161,583	
449								
450	NONRATE REVENUES							
451	System Capacity Charges	0						
452	Contributions-in-Aid	0	0	0	0	0	0	
453	Taxes	0						
454	Muni Services/ Misc	14,500	12,000	13,000	13,000	13,000	13,000	
455	Intrest Expense	46,559	30,524	29,346	29,346	29,346	29,346	
456	Other B	0	0	0	0	0	0	
457	Interest income from:							
458	Bond Funds-Construction	0	0	0	0	0	0	
459	Bond Reserve Funds	0	0	0	0	0	0	
460	General Fund Balance	-7,680	-27,785	-44,820	-49,617	-49,649	-52,908	
461		---	---	---	---	---	---	
462	Total nonrate revenue	53,379	14,739	-2,474	-7,271	-7,303	-10,562	
463								
464	FOR GENERAL FUND - OVER/(SHORT)	N/A	-364,867	-955,260	-1,174,192	-1,183,194	-1,175,731	
465								
466	TOTAL WATER REVENUE REQUIREMENTS	1,730,784	2,417,610	2,725,014	2,812,177	2,870,362	3,083,831	
467								
468	WATER REVENUE UNDER CURRENT RATE	1,365,916	1,382,372	1,398,992	1,415,779	1,432,733	1,449,857	
469								
470	TRIAL RATE INCREASE (%)		6.00%	5.00%	4.00%	3.00%	2.00%	
471								
472	WATER REVENUE UNDER TRIAL RATES	1,365,916	1,462,350	1,550,822	1,628,984	1,694,632	1,745,809	
473								
474	RATE REQUIREMENTS AS PERCENT	1	2	2	2	2	2	
475	OF REVENUE UNDER TRIAL RATES							
476								
477	GENERAL FUND-ENDING BALANCE	-364,867	-955,260	-1,174,192	-1,183,194	-1,175,731	-1,338,021	
478	TARGET GENERAL FUND BALANCE	0	0	0	0	0	0	
479								
480	GENERAL FUND-OVER/(SHORT)	-364,867	-955,260	-1,174,192	-1,183,194	-1,175,731	-1,338,021	
481		---	---	---	---	---	---	

EXHIBIT 7
BEATRICE, NEBRASKA SEWER RATES
CLASSIFICATION OF NET WATER REVENUE REQUIREMENT BY COST FUNCTION

DESCRIPTION		TOTAL REVENUE REQUIREMEN	BASE	EXTRA CAPACITY MAX DAY	EXTRA CAPACITY MAX HOUR	CUSTOMER BILLING	METERS & SERVICES	BASIS OF CLASSIFICATION
SOURCE OF SUPPLY								
	0	0	0					100% BASE
Operating Expense		1,010,178	505,089	353,562	151,527			AVG/MAX DAY
	0	0	0	0				AVG/MAX DAY
	0	0	0					100% BASE
	0	0	0					
Total		1,010,178	505,089	353,562	151,527	0	0	
TREATMENT								
Chemicals		0	0	0				100% BASE
Operating Expense		0	0	0				AVG/MAX DAY
Maintenance Expense		0	0	0				AVG/MAX DAY
Other Treatment Expense		0	0					ASSUMED BASE
Total Treatment		0	0	0	0	0	0	
COLLECTION								
Pumping Power		0	0	0				AVG/MAX DAY
Operating Exp - Pumping		0	0	0				AVG/MAX DAY
Operating Exp - Dist Line		0	0	0				AVG/MAX DAY
Operating Exp - Reservoir		0	0	0				AVG/MAX DAY
Maintenance - Pumping		0	0	0				AVG/MAX DAY
Maintenance - Mains		0	0		0			AVG DAY/MAX HR
Maintenance - Services		0					0	100% METERS
Maintenance - Reservoirs		0	0	0	0			AVG/MAX DAY
Maintenance - Meters		0					0	100% METERS
Maintenance - Hydrants		0	0					AS PUB SERVICE
Other Distribution Expense		0	0					ASSUMED BASE
Total Distribution		0	0	0	0	0	0	
CUSTOMER COSTS								
Meter Reading		0				0		100% CUST BILL
Billing & Collection		0				0		100% CUST BILL
Total Customer Costs		0	0	0	0	0	0	

529	ADMINISTRATIVE & GENERAL						
530	A & G Salaries & Benefits	0	0				100% BASE
531	Office Supplies	0	0				100% BASE
532	Professional Services	0	0				100% BASE
533	Insurance and Taxes	0	0				100% BASE
534	Other Expense A	0	0				100% BASE
535	Other Expense B	0	0				100% BASE
536	Miscellaneous Expense	0	0				100% BASE
537		---	---	---	---	---	---
538	Total Admin & General	0	0	0	0	0	0
539							
540	Total O&M	1,010,178	505,089	353,562	151,527	0	0
541		1	1	0	0	0	0
542	REVENUE-FUNDED CAPITAL PROGRAMS:						
543	Contributions-in-Aid	0	0	0	0		0 AS % CONTRIB
544	Revenue-Funded Programs	625,100	502,381	122,719	0		0 % TOTAL PLANT
545		---	---	---	---	---	---
546	Total revenue-funded capital	625,100	502,381	122,719	0	0	0
547							
548	DEBT SERVICE						
549	Bond Principal	148,885	119,656	29,229	0		0 % TOTAL PLANT
550	Bond Interest	0	0	0	0		0 % TOTAL PLANT
551		---	---	---	---	---	---
552	Total debt service	148,885	119,656	29,229	0	0	0
553							
554	NONRATE REVENUES						
555	System Capacity Charges	0		0	0		% MAX DAY-HOUR
556	Contributions-in-Aid	0	0	0	0		0 AS % CONTRIB
557	Taxes	0	0	0	0	0	0 TOTAL O&M
558	Muni Services/ Misc	14,500	14,500				AS TO FUNCTION
559	Intrest Expense	46,559					
560	Other B	0					
561	Interest income from:						
562	Bond Funds-Construction	0	0				100% BASE
563	Bond Reserve Funds	0	0	0	0		0 AS % RATE BASE
564	General Fund Balance	-7,680	-7,064	-1,627	0		0 AS % RATE BASE
565		---	---	---	---	---	---
566	Total nonrate revenue	53,379	7,436	-1,627	0	0	0
567							
568	TOTAL REVENUE REQUIREMENTS	1,730,784	1,119,690	507,137	151,527	0	0
569		1	1	0	0	0	0
570	---	---	---	---	---	---	---

EXHIBIT 8
BEATRICE, NEBRASKA SEWER RATES
DISTRIBUTION OF TOTAL CAPITAL ASSETS BY COST FUNCTION

DESCRIPTION	TOTAL PLANT ASSETS (At Cost)	EXTRA CAPACITY		METERS & SERVICES	BASIS OF SIFICATION	D
		BASE	MAX DAY	MAX HOUR		
SOURCE OF SUPPLY & TERMINAL STORAGE						WORKSHEET 7, EXI
Watershed & Land	0	0			100% BASE	WORKSHE
Raw Water Transmission	0	0			100% BASE	WORKSHE
Structures	0	0			100% BASE	WORKSHE
Equipment	0	0			100% BASE	WORKSHE
Other A	0	0			100% BASE	WORKSHE
Other B	0	0			100% BASE	WORKSHE
Total Source of Supply	0	0	0	0	0 100% BASE	
TREATMENT						
Structures	3,623,258	2,911,943	711,314		AVG/MAX DAY	WORKSHEE
Equipment	477,929	384,103	93,827		AVG/MAX DAY	WORKSHEE
Other A	772,288	620,673	151,615		AVG/MAX DAY	WORKSHEE
Other B	0	0	0		AVG/MAX DAY	WORKSHEE
						WORKSHEE
Total Treatment	4,873,475	3,916,719	956,756	0	0 G/MAX DAY	
DISTRIBUTION						
Land & Land Rights	0	0	0		AVG/MAX DAY	WORKSHEE
Structures and Improvements	0	0	0		AVG/MAX DAY	WORKSHEE
Distribution Mains	0	0		0	AVG DAY/MAX HR	WORKSHEE
Reservoirs and Tanks	0	0	0		AVG/MAX DAY	WORKSHEE
Services	0				0 CUSTOMER	
Meters	0				0 CUSTOMER	
Hydrants	0	0			AS PUB SERVICE	
Other A	0	0			ASSUMED BASE	
Other B	0	0			ASSUMED BASE	
Total Distribution	0	0	0	0	0	
GENERAL PLANT						
Structures	0	0			100% BASE	
Office Equipment	0	0			100% BASE	
Tools and Shop Equipment	0	0			100% BASE	
Lab Equipment	0	0			100% BASE	
Other A	0	0			100% BASE	
Other B	0	0			100% BASE	
Total General Plant	0	0	0	0	0	

620 TOTAL PLANT IN SERVICE	$4,873,475	$3,916,719	$956,756	$0	$0	
621 % of Total Plant in Service	1	1	0	0	0	
622 Less Contributions in Aid:						
623 Reservoirs & Pumping	0	0	0		AVG/MAX DAY	WORKSHEE
624 Distribution Mains	0	0		0	AVG DAY/MAX HR	WORKSHEE
625 Services & Meters	0				0 CUSTOMER	
626 Hydrants	0	0			AS PUB SERVICE	
627	---	---	---	---	---	
628 Total Contributions-in-Aid	0	0	0	0	0	
629 % of Total Contributions-in-Aid	0	0	0	0	0	
630 TOTAL PLANT AT UTILITY COST	4,873,475	3,916,719	956,756	0	0	
631 % of Total Plant at Cost	1	1	0	0	0	
632 Less Accumulated Depreciation:						
633 Source of Water Supply	0	0			AS SOURCE CAP	
634 Water Treatment	0	0	0	0	0 TREAT CAP	
635 Water Distribution	0	0	0	0	0 AS DIST CAP	
636 General Plant	600,000	0			AS G.P. CAP	
637	---	---	---	---	---	
638 Total Depreciation	600,000	0	0	0	0	
639						
640 Plus Working Capital:						
641 Accounts Receivables (1 Mo Water Revenue)	113,826	113,826			100% BASE	
642 Inventories (.5 Mos Oper Expense)	42,091	33,828	8,263	0	0)TAL PLANT	
643 Operating Capital (1.5 Mos Oper Expense)	126,272	126,272			100% BASE	
644 Other Working Capital	0	0			UMED BASE	
645	---	---	---	---	---	
646 Total Working Capital	282,189	273,926	8,263	0	0	
647						
648 TOTAL RATE BASE	4,555,665	4,190,645	965,019	0	0	
649 % of Total Rate Base	1.00	0.92	0.21	0.00	0.00	
650 ---	---	---	---	---	---	

EXHIBIT 9
BEATRICE, NEBRASKA SEWER RATES
ASSIGNMENT OF DISTRIBUTED COSTS TO CUSTOMER CLASSES

CUSTOMER CLASS	TOTAL REVENUE REQUIREMENT	EXTRA CAPACITY		CUSTOMER BILLING	METERS & SERVICES	D
		BASE	MAX. DAY	MAX. HOUR			
RESIDENTIAL	938,482	560,482	276,906	101,094	0	0	EXHI
COMMERCIAL	839,872	559,209	230,231	50,432	0	0	EXHI
	0	0	0	0	0	0	EXHI
	0	0	0	0	0	0	EXHI
	0	0	0	0	0	0	EXHI
	0	0	0	0	0	0	EXHI
TOTAL	1,730,784	1,119,690	507,137	151,527	0	0	

SUMMARY

CUSTOMER CLASS	TOTAL WATER RELATED	COST PER MGAL	TOTAL CUSTOMER RELATED	COST PER EQUIV METER	
RESIDENTIAL	938,482	3.97	0	0	E
COMMERCIAL	839,872	3.56	0	0	E
	0	0	0	0	E
	0	0	0	0	E
	0	0	0	0	
	0	0	0	0	
TOTAL	1,778,354	3.77	0	0	E

EXHIBIT 10
BEATRICE, NEBRASKA SEWER RATES
TYPICAL MONTHLY BILL FOR BASE YEAR
FOR AVERAGE METER SIZE IN EACH CUSTOMER CLASS

CUSTOMER CLASS	EXISTING RATES 2,013	C-O-S* RATES 2,013	D
RESIDENTIAL	18.57	15.86	EXH
COMMERCIAL	81.53	125.20	EXH
	0	0	EXH
	0	0	EXH
	0	0	
	0	0	

* COST-OF-SERVICE

APPENDIX "F"

Industrial Wastewater Rate Methodology and Calculations

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

SEWER SYSTEM MAINTENANCE ASSESSMENT

X = Sewer Maintenance Budget =	$603,020	
Y = Length of Sewer Used by Company =	1,000	????
Z = Total Length of All City Sewer as of Aug _____ =	800,000	????

Industry Maintenance Cost -	Annual =	$754
	Monthly =	$63

City's Maintenance Cost -	Annual =	$602,266
	Monthly =	$50,189

CAPITAL IMPROVEMENT ANNUAL COST

Loan Amount =	$0	
Length of Loan =	20	years
Interest Rate =	4.22%	
A/P =	0.07502	
Annual Debt Payment =	$0	

Industry Debt Payment -	Annual =	$0
	Monthly =	$0
City's Debt Payment -	Annual =	$0
	Monthly =	$0

PROPORTIONATE FIXED AND VARIABLE COSTS

Unit Contribution Breakout

Unit	Flow	BOD	SS	TKN	FOG
Influent Headworks/Comminutor	100%	0%	0%	0%	
Primary Treatment	20%	30%	50%	0%	
Secondary System	0%	70%	15%	15%	
Misc & Capital Improvements	60%	25%	10%	5%	

Fixed and Variable Cost Breakout

Item	Fixed	Variable	Total	Assumptions:
Labor	$303,856	$151,769	$455,762	2/3 fixed, 1/3 variable
Power	$8,350	$158,650	$167,000	mixers, light, and heat fixed
Chemicals/Testing	$10,000	$0	$10,000	all fixed
Repairs/Maintenance	$19,913	$19,913	$39,825	1/2 fixed, 1/2 variable
Miscellaneous& Capital Imp	$675,262	$0	$675,262	all fixed
Total	$1,017,381	$330,331	$1,347,849	
Percent of Total	75.5%	24.5%		

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

BREAKOUT BY CONTRIBUTION - FIXED ANNUAL COSTS

LABOR COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$15,193	$15,193	$0	$0	$0
Primary Treatment	$30,386	$6,077	$9,116	$15,193	$0
Secondary System	$212,699	$0	$148,890	$31,905	$31,905
Misc & Capital Improvements	$45,578	$27,347	$11,395	$4,558	$2,279
Total	$303,856	$48,617	$169,400	$51,656	$34,184

POWER COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$0	$0	$0	$0	$0
Primary Treatment					
Secondary System	$0	$0	$0	$0	$0
Misc & Capital Improvements	$8,350	$0	$5,845	$1,253	$1,253
Misc., Admin. & Testing	$0	$0	$0	$0	$0
Total	$8,350	$0	$5,845	$1,253	$1,253

CHEMICAL/TESTING COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$0	$0	$0	$0	$0
Primary Treatment	$0	$0	$0	$0	$0
Secondary System	$0	$0	$0	$0	$0
Misc & Capital Improvements	$10,000	$6,000	$2,500	$1,000	$500
Total	$10,000	$6,000	$2,500	$1,000	$500

REPAIRS/MAINTENANCE COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$2,668	$2,668	$0	$0	$0
Primary Treatment	$3,983	$797	$1,195	$1,991	$0
Secondary System	$6,631	$0	$4,642	$995	$995
Misc & Capital Improvements	$6,631	$3,979	$1,658	$663	$332
Total	$19,913	$7,443	$7,494	$3,649	$1,326

MISCELLANEOUS COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$0	$0	$0	$0	$0
Primary Treatment	$0	$0	$0	$0	$0
Secondary System	$337,631	$0	$236,342	$50,645	$50,645
Misc & Capital Improvements	$337,631	$202,579	$84,408	$33,763	$16,882
Total	$675,262	$202,579	$320,749	$84,408	$67,526

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

Breakout by Contribution

Fixed Annual Costs

Unit	Fixed Cost	Flow	BOD	SS	TKN
Influent Headworks/Comminutor	$17,861	$17,861	$0	$0	$0
Primary Treatment	$34,368	$6,874	$10,310	$17,184	$0
Secondary System	$565,311	$0	$395,718	$84,797	$84,797
Misc & Capital Improvements	$399,840	$239,904	$99,960	$39,984	$19,992
Total	$1,017,381	$264,639	$505,988	$141,965	$104,789

Current % Contributions

Industry		Industry Cost
Flow	10%	$25,453.82
BOD	66.5%	$336,428.48
SS	21%	$29,604.93
TKN	25.5%	$26,710.85
	Total	$418,198.08

Current % Contributions

Beatrice		City Cost
Flow	90%	$239,185.09
BOD	33.5%	$169,559.96
SS	79%	$112,359.87
TKN	74.5%	$78,077.86
	Total	$599,182.78

Fixed Proportionate Monthly Cost

Industry Monthly Cost =	$34,849.84
% Contribution =	41%
City's Monthly Cost =	$49,931.90
% Contribution =	59%

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

BREAKOUT BY CONTRIBUTION - VARIABLE ANNUAL COSTS

LABOR COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$6,071	$6,071	$0	$0	$0
Primary Treatment	$9,106	$1,821	$2,732	$4,553	$0
Secondary System	$91,061	$0	$63,743	$13,659	$13,659
Misc & Capital Improvements	$45,531	$27,318	$11,383	$4,553	$2,277
Total	$151,769	$35,210	$77,857	$22,765	$15,936

POWER COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$4,760	$4,760	$0	$0	$0
Primary Treatment	$25,384	$5,077	$7,615	$12,692	$0
Secondary System	$126,920	$0	$88,844	$19,038	$19,038
Misc & Capital Improvements	$1,587	$952	$397	$159	$79
Total	$158,650	$10,788	$96,856	$31,889	$19,117

CHEMICAL/TESTING COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$0	$0	$0	$0	$0
Primary Treatment	$0	$0	$0	$0	$0
Secondary System	$0	$0	$0	$0	$0
Misc & Capital Improvements	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$0

REPAIRS/MAINTENANCE COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$1,991	$1,991	$0	$0	$0
Primary Treatment	$7,965	$1,593	$2,390	$3,983	$0
Secondary System	$9,956	$0	$6,969	$1,493	$1,493
Misc & Capital Improvements	$0	$0	$0	$0	$0
Total	$19,913	$3,584	$9,359	$5,476	$1,493

MISCELLANEOUS COMPONENT

	Assume	Flow	BOD	SS	TKN
Influent Headworks/Communtc	$0	$0	$0	$0	$0
Primary Treatment	$0	$0	$0	$0	$0
Secondary System	$0	$0	$0	$0	$0
Misc & Capital Improvements	$0	$0	$0	$0	$0
Total	$0	$0	$0	$0	$0

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

Breakout by Contribution

Variable Annual Costs

Unit	Variable Cost	Flow	BOD	SS	TKN
Influent Headworks/Comminutor	$12,821.50	$12,821.50	$0.00	$0.00	$0.00
Primary Treatment	$42,455.12	$8,491.02	$12,736.54	$21,227.56	$0.00
Secondary System	$227,937.45	$0.00	$159,556.21	$34,190.62	$34,190.62
Misc & Capital Improvements	$47,117.10	$28,270.26	$11,779.27	$4,711.71	$2,355.85
Total	$330,331.16	$49,582.78	$184,072.02	$60,129.89	$36,546.47

Flow Factor = x	0.150
BOD Factor = y	0.557
SS Factor = z	0.182
TKN Factor = a	0.111
Total	1.000

Variable Cost Calculation

Cu = X * CtVu/Vt + Y*CtBu/Bt + Z*CtSu/St + A*CtTu/Tt

Cu = A user's charge of variable operation, maintenance, and repair costs per unit of time.

Ct = Total portion of facility variable operation, maintenance, and repair costs per unit of time =	$330,331	
Vu = Volume contribution from a user per unit of time =	0.12600	MGD
Vt = Total volume contribution from all users per unit of time =	1.31	MGD
Bu = Total BOD contribution from a user per unit of time =	1,000	lbs./day
Bt = Total BOD contribution from all users per unit of time =	1,504	lbs./day
Su = Total suspended solids contribution from a user per unit of time =	469	lbs./day
St = Total suspended solids contribution from all users per unit of time =	2,249	lbs./day
Tu = Total TKN contribution from a user per unit of time =	156	lbs./day
Tt = Total TKN contribution from all users per unit of time =	612	lbs./day

Cu =	$149,012.43	per year
	$12,417.70	per month
City's Share =	$181,318.74	per year
	$15,109.89	per month

Total Monthly Cost

Industry:		
Sewer System Maintenance		$62.81
Capital Construction Cost		$0.00
Proportionate Fixed Cost		$34,849.84
Variable Cost		$12,417.70
	Total	$47,330.36
Beatrice:		
Sewer System Maintenance		$50,188.85
Capital Construction Cost		$0.00
Proportionate Fixed Cost		$49,931.90
Variable Cost		$15,109.89
	Total	$115,230.64

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

Surcharge Calculation

SC = (Rp(Pt-Pm) + Rc(Si-Sm) + Rt(Tt-Tm) + Rv((Vt-Vm)/1,000))

where,
- SC = Surcharge per day of noncompliance
- Rp = BOD treatment cost per pound per day
- Pt = BOD generated by user in pounds
- Pm = BOD in allocated waste water defined as 1,504 pounds per day
- Rc = Suspended solids treatment cost per pound
- Si = Suspended solids generated by user in pounds per day
- Sm = Suspended solids in allocated waste water defined as 2,249 pounds per day
- Rt = TKN treatment cost per pound per day
- Tt = TKN generated by user in pounds per day
- Tm = TKN in allocated waste water defined as 612 pounds per day
- Rv = Treatment cost of flow per 1,000 gallons
- Vt = Volume of waste water generated by user in gallons per day
- Vm = Volume of waste water allocated to user defined as 150,000 gallons per day

BOD Treatment Cost per Pound

Capital Construction Cost per Pound of BOD

Loan Amount =	$0.00		
Length of Loan =	20	years	
Interest Rate =	4.22%		
A/P =	0.07502		
BOD Construction Cost Factor =	58%		(FROM ORIGINAL CONSTRUCTION COST ALLOCATION)
BOD Capital Construction Cost =	$0.00		
Annual BOD Construction Cost =	$0.00	per year	
Design BOD Loading =	3400	lbs./day	

Capital Construction Cost per Pound of BOD = $0.000

Fixed Proportionate Cost per Pound of BOD

BOD Fixed Cost =	$505,988.44		
Current BOD Loading =	1,504	lbs/day	(PREVIOUS ANNUAL AVERAGE)

Fixed Cost per Pound of BOD = $0.922

Variable Cost per Pound of BOD

BOD Variable Cost =	$184,072.02		
Current BOD Loading =	1,504	lbs/day	(PREVIOUS ANNUAL AVERAGE)

Variable Cost per Pound of BOD = $0.335
Total Treatment Cost per Pound of BOD = $1.26

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

TKN Treatment Cost per Pound

Capital Construction Cost per Pound of TKN

Loan Amount =	$0.00	
Length of Loan =	20	years
Interest Rate =	4.22%	
A/P =	0.07502	
TKN Construction Cost Factor =	27%	(FROM ORIGINAL CONSTRUCTION COST ALLOCATION)
TKN Capital Construction Cost =	$0.00	
Annual TKN Construction Cost =	$0.00	per year
Design TKN Loading =	612	lbs./day

Capital Construction Cost per Pound of TKN = $0.000

Fixed Proportionate Cost per Pound of TKN

TKN Fixed Cost =	$104,788.71		
Current TKN Loading =	612	lbs/day	(PREVIOUS ANNUAL AVERAGE)

Fixed Cost per Pound of TKN = $0.469

Variable Cost per Pound of TKN

TKN Variable Cost =	$36,546.47		
Current TKN Loading =	612	lbs/day	(PREVIOUS ANNUAL AVERAGE)

Variable Cost per Pound of TKN = $0.164

Total Treatment Cost per Pound of TKN = $0.63

Treatment Cost of Flow per 1,000 Gallons

Capital Construction Cost for Flow

Loan Amount =	$0.00	
Length of Loan =	20	years
Interest Rate =	4.22%	
A/P =	0.07502	
Flow Construction Cost Factor =	15%	(FROM ORIGINAL CONSTRUCTION COST ALLOCATION)
Flow Capital Construction Cost =	$0.00	
Annual Flow Construction Cost =	$0.00	per year
Design Flow =	528,000	gal/day

Capital Construction Cost per 1,000 Gallons of Flow = $0.000

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

Fixed Proportionate Cost per 1,000 gallons of Flow

Flow Fixed Cost =	$264,638.91		
Current Flow =		1,310,000 gal/day	(PREVIOUS ANNUAL AVERAGE)

Fixed Cost per 1,000 Gallons of Flow = $0.553

Variable Construction Cost per 1,000 gallons of Flow

Flow Variable Cost =	$49,582.78	
Current Flow =	1,310,000	gal/day

Variable Cost per 1,000 Gallons of Flow = $0.104

Total Treatment Cost per 1,000 Gallons of Flow = $0.66

Suspended Solids Treatment Cost per Pound

Capital Construction Cost per Pound of Suspended Solids

SS Construction Cost Factor = 4% ONSTRUCTION COST ALLOCATION)

Annual SS Construction Cost =	$0.00	per year
Design SS Loading =	2249	lbs./day

Capital Construction Cost per Pound of SS = $0.000

Fixed Proportionate Cost per Pound of SS

SS Fixed Cost =	$141,964.80	
Current SS Loading =	2,249	lbs/day

Fixed Cost per Pound of SS = $0.173

Variable Construction Cost per Pound of SS

SS Variable Cost =	$60,129.89	
Current SS Loading =	2,249	lbs/day

Variable Cost per Pound of SS = $0.073

Total Treatment Cost per Pound of SS = $0.246

BEATRICE WASTEWATER TREATMENT PLANT
ALLOCATION OF SEWER SYSTEM, PROPORTIONATE FIXED COSTS
PROPORTIONATE VARIABLE COSTS AND CONSTRUCTION COSTS
FISCAL YEAR 2014
(VARIABLE COSTS WILL CHANGE EACH SAMPLING PERIOD)

Fats, Oils, and Grease Treatment Cost per Pound

Capital Construction Cost per Pound of FOG

FOG Construction Cost Factor = 5% ONSTRUCTION COST ALLOCATION)

Annual FOG Construction Cost = $0.00 per year
Design FOG Loading = 0.01 lbs./day

Capital Construction Cost per Pound of FOG = $0.000

Fixed Proportionate Cost per Pound of FOG

FOG Fixed Cost = $0.00
Current FOG Loading = 0 lbs/day

Fixed Cost per Pound of FOG = #DIV/0!

Variable Construction Cost per Pound of FOG

FOG Variable Cost = $469.00
Current FOG Loading = 0 lbs/day

Variable Cost per Pound of FOG = #DIV/0!

Total Treatment Cost per Pound of FOG = #DIV/0!

F:\Projects\013-2627\Data\Cost of Service Data\[Beatrice BOD, TSS, TKN, FOG Rates.xlsx]A

APPENDIX "G"
Water and Sewer Rate Fact Sheets

Beatrice BPW Water Rate Study - Fact Sheet

Current Usage (all accounts)	3,534,753 gallons per day
Current Usage (Residential and Commercial only)	1,772,644 gallons per day
Monthly Sales	26,841 thousand gallons
Total Accounts	5,627

Current Revenue & Expenses	FY 2014-Budget	FY 2015-Projected
Sales Revenue	$2,559,323	$2,815,255
Other Revenue	$0	$0
Total Revenue	**$2,559,323**	**$2,815,255**
Operating Expenses	$1,717,630	$1,741,710
Other Expense (incl. Depreciation)	$578,889	$594,220
Total Operating Expenses	**$2,296,519**	**$2,335,930**
Bonds & Financial Expenses	$113,220	$111,470
Capital Expenditures	$667,500	$757,700
Total	**$780,720**	**$869,170**
Total Revenue Required	$3,077,239	$3,205,100
Deficit	-$517,916	-$389,845
Deficit without Depreciation	-$2,916	$140,155
Cumulative Cash Reserve	$749,084	$889,239

Current Rates	Service Charge*	Cost per 1,000 gal.	Avg. Use (Mgal)	Avg. Revenue /User
Residential	$12.75	$1.86	6.16	$22.30
Commercial	$13.75-$52.25	$1.86	36.34	$81.34
Contract	$52.25	$1.86 - $0.43	26,798.75	$11,919.38
Total/month	Usage	26,841 Mgal		
	Revenue	$186,937.83		

Proposed Rates-Step 1**	Service Charge*	Cost per 1,000 gal.	Avg. Use (Mgal)	Avg. Monthly Revenue/User
Residential	$15	$2.13	6.16	$28.13
Commercial (5/8" or 3/4" Meter)	$16-$70	$2.13	36.34	$93.41
Contract	$70	$2.13-$0.55	26,798.75	$15,047.31

*Includes a $2 residential and $3 commercial/contract infrastructure improvement charge.

**Other rate steps available upon request

F:\Projects\013-2627\Data\Cost of Service Data\[WaterRateCalculations_2014.xlsx]Fact Sheet

Beatrice BPW Sewer Rate Study - Fact Sheet

Current Usage (all accounts)	1,175,912	gallons per day (avg.)
Monthly Sales	35,767	thousand gallons
Total Accounts	5,500	

Current Revenue & Expenses	FY 2014-Budget	FY 2015-Projected
Sales Revenue	$1,729,000	$1,832,740
Other Revenue	$0	$0
Total Revenue & Expenses	**$1,729,000**	**$1,832,740**
Operating Expenses	$1,032,745	$1,059,130
Other Expense (incl. Depreciation)	$602,524	$622,346
Total Operating Expenses	**$1,635,269**	**$1,681,476**
Bonds & Financial Expenses	$162,998	$161,583
Capital Expenditures	$864,000	$534,000
Total	**$1,026,998**	**$695,583**
Total Revenue Required	$2,662,267	$2,377,059
Deficit	-$933,267	-$544,319
Deficit without Depreciation	-$373,267	$35,681
Cumulative Cash Reserve	$826,733	$862,414

Current Rates	Service Charge	Cost per 1,000 gal.	Avg. Use (Mgal)	Avg. Revenue /User
Residential	$10.50	$2.02	3.84	$18.25
Commercial	$10.50	$2.02	30.10	$71.73
Total/month	Usage	35,767 Mgal		
	Revenue	$130,246.92		

Proposed Rates - Step 1*	Service Charge**	Cost per 1,000 gal.	Avg. Use (Mgal)	Avg. Revenue /User
Residential	$13.50	$2.18	3.84	$21.86
Commercial	$14.50	$2.18	30.10	$80.12

*Other rate steps available upon request

**Includes a $2 residential and $3 commercial/contract infrastructure improvement charge.

F:\Projects\013-2627\Data\Cost of Service Data\[SewerRateCalculations_2014.xlsx]Fact Sheet

APPENDIX "H"

Sample Sewer Rate Ordinance for BPW's Use

RESOLUTION NO. _____

A RESOLUTION OF THE BOARD OF PUBLIC WORKS FOR THE CITY OF _____, NEBRASKA, ESTABLISHING SEWER RATES FOR RESIDENTIAL, COMMERCIAL, AND PERMITTED USERS; PROVIDING SEWER SAMPLING ADDITIONS; PROVIDING INTERCEPTOR INSTALLATION ADDITIONS; PROVIDING DISCHARGER COST ADDITIONS; PROVIDING FOR LATE PAYMENT ADDITIONS; PROVIDING AN EFFECTIVE DATE; AND REPEALING PRIOR RESOLUTIONS.

WHEREAS, the retail rates paid by the sewer users of the City of _____, Nebraska, "City" were last reviewed and revised on _____, 2014;

AND WHEREAS, the Board of Public Works has reviewed the impact of all costs of service, including the new sewer improvements that have been and will be constructed by the City of _____, and determined that they will result in an increase in cost of service and require a rate increase;

NOW THEREFORE, BE IT RESOLVED by the Board of Public Works of the City of _____, Nebraska, that pursuant to _____, of the Municipal Code of the City of _____, Nebraska, the Board of Public Works does hereby approve and adopt the following revised rates to be paid by sewer users of the City of _____, Nebraska:

SECTION 1 – DEFINITIONS

The following words and phrases shall have the meanings respectively ascribed to them:

Abnormal BOD: The BOD content of the sewage in excess of 240 milligrams per liter.

Abnormal TKN: The TKN content of the sewage in excess of 30 milligrams per liter.

Abnormal TSS: The sum of the Total Suspended Solids content of the sewage in excess of 240 milligrams per liter.

BOD (abbreviation for *Biochemical Oxygen Demand*): The quantity of oxygen utilized in biochemical oxidation of organic matter under standard laboratory procedure in five days at 20 degrees Celsius (68 degrees Fahrenheit), expressed in milligrams per liter.

Septic Waste Hauler: Any business that takes waste only from septic tanks and trucks or hauls such waste for direct disposal at the City's wastewater treatment plant. *Sewer user*: Any owner, possessor, tenant, occupier, inhabitant, holder or person using premises, property or structures of every kind, nature and description, which have water service from any supply source and are connected directly or indirectly with the sewage system of the city (also known as the wastewater collection and treatment system).

(a) *Residential user*: A sewer user with a single-family dwelling unit used exclusively as a place of abode and served by a separate water meter or any sewer service user so designated by the City.

(b) *Commercial user*: A sewer service user engaged in business, economic, or professional activities or has a single water meter serving two or more dwelling units who normally uses an average of 7,480,000 gallons or less of water per month over a 12 month period, or who is so designated by the City.

(c) *Permitted user*: A sewer service user engaged in selling, warehousing, or distributing a commodity or engaged in business, economic, or professional activities who normally uses in excess of an average of 7,480,000 gallons of water per month, or has abnormal wastes as defined above, over a 12 month period for the immediate year preceding. If not in business for 1 year, the determination is based on the City's projections of monthly water use.

TKN (abbreviation for *Total Kjeldahl Nitrogen*): Total nitrogen in a substance determined by digesting with sulfuric acid and a catalyst; the nitrogen is reduced to ammonia, which is then measured.

Toxic pollutant: Any substance in concentrations greater than those allowed under State of Nebraska or Federal regulations that may require extraction and disposal.

TSS (abbreviation for *Total Suspended Solids*): Solids that float on the surface or are in suspension in water, sewage, or other liquids, and which are removable by laboratory filtering, expressed in milligrams per liter.

SECTION 2 – METERS

A sewer user that obtains all or a part of its water service from any privately owned and operated

supply source, shall report the name and address of such privately owned and operated supply source to the City and shall, at its own cost and expense, provide meter facilities satisfactory to the City, for determining the volume of water obtained from such privately owned and operated supply source, so that, based thereon, the proper sewer service charge may be levied in accordance with Section 7; provided, however, sewer users may, at their option and expense, and with the approval of the City, install sewage meters to measure all sewage discharged into the sanitary, combination, or storm sewers. The rates specified in Section 6 shall apply equally to sewage meters. Where, in the judgment of the City, by reason of special or unusual conditions, such meter requirements would be inequitable or unfair to the user, a special rate may be established by administrative rule or regulation, with approval of the Chairman of the Board of Public Works. The City shall not require the installation of sewer meters or other wastewater measuring devices if the property is not discharging Permitted wastes or other high strength sewage, unless special or unusual conditions merit the making of such a requirement. In the event the City can determine the actual flow into the sanitary sewer by utilizing past user records and other reliable information, the City may waive the requirement of the installation of the meters described in this paragraph. The City shall have the right to remove, repair, and reinstall any such permitted or required meter or device at the user's expense.

SECTION 3 – OBTAINING AND ANALYZING SEWER SAMPLES

All Permitted Users shall, in addition to the other provisions of this Resolution, comply with the following provisions:

MONITORING FACILITIES

City shall utilize and maintain its current monitoring facilities for purposes of acquiring the test samples required by this Resolution. In the event such facilities become inadequate or obsolete, the Permitted user shall, at Permitted User's expense, construct and maintain a monitoring facility to allow inspection, sampling and flow measurement of the lateral sewer or internal drainage systems and shall also require sampling or metering equipment to be provided, installed, operated and maintained at Permitted User's expense. Authorized personnel of the City shall have access to such monitoring facilities at all times for inspection, sampling and sample collection. If such facilities are locked, special arrangements shall be made to allow access by City personnel.

City shall also have the right to set up a monitoring device at such facility at City's expense.

ACCESS TO PROPERTY

Permitted User shall allow authorized personnel of the City ready access at all reasonable times to all parts of its property for the purpose of inspection or sampling or for the performance of their duties. City shall have the right to set up on Permitted User's property such devices as are necessary to conduct sampling or metering operations at City's cost and risk. While performing such work, City's personnel shall observe all safety rules established by Permitted User and applicable to its plant or facilities and such personnel shall not interfere with the normal operations of Permitted User's plant.

SAMPLING METHODS

All measurements, tests, and analysis of the characteristics of Permitted User's waste shall be determined in accordance with the latest edition of *STANDARD METHODS FOR EXAMINATION OF WATER AND WASTE WATER* published by the American Public Health Association and American Water Works Association and shall be determined at the monitoring facilities or from samples taken at such monitoring facilities. Sampling shall be carried out by customarily accepted methods to reflect the effects of waste constituents upon the waste water treatment works and to determine the existence of a possible hazard to life, limb, property and proper operation of the waste water treatment facility. All samples taken by the City will be divided and shared with the Permitted User, if requested, and the results of said testing shall be made available by the City to Permitted User upon receipt. Sampling shall be done a minimum of 5 days selected at

random by the City in every three month (90 day) period. The Permitted User shall be responsible for the costs of the analysis of the samples and the costs shall be directly billed to the Permitted User. The City may, in its discretion and at its cost obtain additional samples. Nothing herein contained shall preclude Permitted User from collecting samples and presenting their analysis to the City for consideration. Should Permitted User collect their own samples, Permitted User shall make available to the City one-half of such samples. If Permitted User does present such analysis for City's consideration, City shall review such data in light of all samples collected and presented for analysis.

City's waste water treatment facility operator shall first resolve all questions relative to the results of sampling and testing. If Permitted User does not accept the decision of the waste water treatment facility operator, it shall give written notice to the City by virtue of depositing the same with the City Clerk or mailing the same to the City Clerk by Certified Mail. At the written request of Permitted User, any disputes as to the testing results shall be submitted to a mutually agreeable laboratory for further tests, which results shall be final for determinations regarding such samples. In the event of a test by such third party laboratory, then the cost of the same shall be borne by the party making such written request therein. In the event Permitted User fails to give written notice of its objection to the City's tests or decision by the waste water facility operator within ten days after receipt of such test information or decision, said test information or decision will become final.

ANNUAL MEETING

Beginning in July of 2014, the City, and Designated Permitted Users will personally meet to discuss issues of joint interest to the parties, such as the Permitted User's change of operating procedures that may affect the City's utilities, changed operating costs of the City, and any other issues the parties deem important to the operation of the _____ Sewer System. The City shall adjust the Permitted User's rates up or down for the following calendar year based on documented factual changes in the factors used to determine the monthly rate set forth in this Agreement. This provision shall not prohibit the City from adjusting the rates of the Permitted User at other times throughout the year if the City deems it advisable. City shall review any intermediate rate adjustments with the Permitted User should this situation occur.

SURCHARGES

In the event that Permitted User's waste discharged shall exceed the allocations as assigned in SECTION 6 below then the Permitted User shall also pay surcharges to the City for excessive strength waste based upon the following provisions:

a. Volume, BOD, Suspended Solids, and TKN Surcharge. On a five day basis (or longer duration if elected by the City), the average daily waste discharge of the Permitted User shall be calculated and in the event Permitted User exceeds the allocated amount for volume, BOD, suspended solids, FOG, or TKN, a surcharge shall be calculated for the components that exceed the allocated amount. The surcharge shall be multiplied by the number of calendar days between scheduled or re-test sampling activities beginning on the first day of the five-day (or longer duration if elected by the City) sampling period to the start of the next five-day (or longer duration if elected by the City) sampling period to obtain the total surcharge. The portion of the total surcharge that occurs in each billing period shall be added to the billing to be paid by the Permitted User on a monthly basis. The daily surcharge shall be calculated in accordance with the following formula:

i. $SC = [R_p (P_t - P_m) + R_c (S_t - S_m) + R_t (T_t - T_m)] X 8.34 X (V_t/1,000,000)$

ii. For purposes of the above formula, the variables shall be defined as follows:

P_m = BOD in allocated waste water defined as 1,504 lbs/day.

P_t = BOD in waste water in pounds per day

R_c = Suspended solids treatment cost per pound per day

R_p = BOD treatment cost per pound per day

R_t = TKN treatment cost per pound per day

T_t = TKN in waste water in pounds per day

T_m = TKN in allocated waste water defined as 612 lbs/day

St = Suspended solids in waste water in ppm

S_m = Suspended solids in allocated waste water defined as 2,249 lbs/

V_t =Volume of waste water generated by user in gallons per day

For purpose of the above formula, R_c shall equal 25 cents ($0.25) per pound, R_p shall equal 1.26 dollars ($1.26) per pound, and R_t shall equal 63 cents ($0.63) per pound.. The treatment cost for each surcharge component may be increased by resolution of the Board of Public Works from time to time as the City's costs associated with the components increase. The City shall provide the Permitted User at least 3 months' advance notice of a surcharge component increase.

INCIDENT CHARGES

In the case of an incident occurring from an Permitted User which requires the waste water treatment facility operator to be called to the facility at other than normal working hours, a $550.00 incident charge shall be levied. For purposes of this Agreement, normal working hours are defined as 7:00 a.m. to 4:00 p.m., Monday through Friday. Further, if any discrete sample within a twenty-four (24) hour period exceeds a concentration of 8,000 mg/l Chemical Oxygen Demand (COD) in any one discrete sample, an incident charge of $550.00 shall be levied whether or not the operator was called out, unless proper notification is made to the City within one hour of occurrence.

SECTION 4 – GREASE, OIL, and SAND INTERCEPTOR; WHEN REQUIRED

Grease, oil, and sand interceptors shall be provided by the owner of a property when, in the opinion of the City, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for residences. All interceptors shall be of a type and capacity approved by the City, and shall be located as to be readily and easily accessible for cleaning and inspection.

SECTION 5 – DISCHARGER RESPONSIBLE FOR INCREASED COSTS

Any user which discharges any toxic pollutants which cause an increase in the cost of managing the effluent or the sludge from the sewage system, or any user which discharges any substance which singly or by interaction with any other substances causes identifiable increases in the cost of operation, maintenance, or replacement of the sewer system, shall pay for such increased costs. The charge to each such user shall be as determined by the City.

SECTION 6 - RATES

Character of Service. The Utility shall endeavor to provide dependable sewer services, adequate to meet the reasonable, anticipated and projected needs of its customers.

Rate Schedules. The rates for service under this schedule shall be as follows:

For all residential, commercial, and Permitted users of the sanitary sewer system, the rates are as follows (see appropriate table):

Residential Effective	CUSTOMER CHARGE includes no consumption	FLOW USAGE RATE PER THOUSAND GALLONS
_____, 2014	$13.50	$2.18

Commercial Effective	CUSTOMER CHARGE includes no consumption	FLOW USAGE RATE PER THOUSAND GALLONS
_____, 2014	$14.50	$2.18

Septic Waste Hauler Effective	CHARGE 0 TO1,500 GALLONS	CHARGE 1,501 TO 2500 GALLONS	CHARGE 2,501 TO 5000 GALLONS
_____, 2014	$100.00	$150.00	$250.00

Permitted User	CUSTOMER CHARGE	FLOW USAGE RATE PER THOUSAND GALLONS
Effective _____, 2014	$100.00	$2.18
Surcharges in Excess		
BOD in Excess of	1,504 lbs/day	$1.26 per lb
TSS in Excess of	2,249 lbs/day	$0.25 per lb
TKN in Excess of	612 lbs/day	$0.63 per lb

Abnormal Sewage Strength

For any user with abnormal sewage concentrations in excess of those specified above for BOD, TSS, and TKN.

Rates effective _____, 2014:

Monthly Infrastructure Improvement Charge

Will be assessed according to the following schedule:

For Residential Customers.....$2.00 per month

For Commercial Customers.....$3.00 per month

For Permitted Customers.....$10.00 per month

SECTION 7 – MONTHLY BILL COMPUTATION

Bill: Customer Charge + Flow-Based Usage Charge(if applicable) + Abnormal Sewage Strength Charges (if applicable)

Residential

The monthly fee for each residential user of the sanitary sewer system of the City shall be based upon the monthly average of water used by the user during at least three (3) of the winter months of December, January, February, or March; multiplied by the applicable residential rate plus the customer charge. This monthly fee shall be used for the ensuing twelve (12) months.

The monthly fee for residential multiple unit users of the sanitary sewer system shall be one of the following:

(a) The applicable residential rate multiplied by the monthly average of water used by the user during at least three (3) of the winter months of December, January, February, or March, plus the number of living units multiplied by customer charge. This monthly fee shall be used for the ensuing twelve (12) months.

OR, If the user does not utilize water for lawn care during summer months then:

(b) The applicable residential rate multiplied by the residential water metered by the user, plus the number of living units multiplied by the customer charge.

Commercial

The monthly fee for each Commercial user of the sanitary sewer system of the City shall be based on the monthly Commercial water metered by the user (unless the Commercial water usage is modified by the next two paragraphs) multiplied by the applicable Commercial rate plus the customer charge plus charges for abnormal concentrations of BOD, TSS, FOG, and TKN discharged to the sewer system.

Each Commercial user using water which does not enter the sanitary sewer system of the City shall be required to install a water meter to measure the applicable monthly water usage which does not enter the sanitary sewer and will be utilized as a deduction from the master meter for purposes of computing the monthly Commercial use fee of the sanitary sewer system or at the option of the City, will be required to

install a meter to measure the actual flow into the sanitary sewer for purposes of computing the monthly fee. In the event the City can determine the actual flow into the sanitary sewer by utilizing past user records and other reliable information, the City may waive the requirement of the installation of the meters described in this paragraph and use the determined flow multiplied by the Commercial rate to obtain the monthly fee.

Commercial users utilizing water for lawn care during summer months shall have rates established for the months of June, July, August, September and October based upon the Commercial use rate multiplied by the monthly average of water used by the user during at least three (3) of the winter months of December, January, February or March.

The monthly fee for Commercial multiple unit users of the sanitary sewer system shall be the following:

(a) The applicable Commercial rate multiplied by the months Commercial water metered by the user (or the amount of water used as determined in the two prior paragraphs), plus the number of units multiplied by the customer charge.

Commercial users with concentrations of BOD, TSS, FOG and TKN less than those indicated in Section 6 will only receive applicable charges for flow usage plus the customer charge each month.

Permitted

The monthly fee for each Permitted user of the sanitary sewer system of the City will be based on the customer charge plus flow based usage charge plus any abnormal sewage strength charges.

The City will allow the establishment of a Permitted Agreement and Permit in lieu of the above charge system. This Agreement will govern the use and charges from the Permitted User.

SECTION 8 – LATE PAYMENT ADDITIONS FOR RESIDENTIAL AND COMMERCIAL USERS

That the sewer service charges computed according to the foregoing rates of this Resolution shall be due and payable to the City of _____, Department of Utilities, on or before the tenth day of each month. After such date, an amount of $25.00 or ten percent (10%) of the net monthly bill (whichever is smaller) shall be added to each billing as a late payment addition.

SECTION 9 – LATE PAYMENT ADDITIONS FOR PERMITTED USERS

All sums due in accordance with this contract shall be paid to City on a monthly basis and shall be immediately due and payable upon the receipt by Permitted User of a statement itemizing the sums so due. Unless payment shall have been received on or before the 10th of each month, such unpaid sums shall be deemed delinquent and shall accrue interest at the rate of one percent per month from the delinquency date of said bill. In the event Permitted User shall fail to pay all sums due in accordance with the provisions of this Agreement within 45 days of the date of said billing, City may discontinue supplying services to Permitted User=s property until such time as said bill shall be paid.

Should Permitted User contest its bill, it shall have 15 days from the date thereof to contest the same by so notifying the City Clerk. The Permitted User shall have the right, during such 15 day period to request verification of said bill. After City has reviewed said bill and reached a final decision thereon, should disagree with said decision, it may appeal said decision as provided by the statutes of the laws of the State of Nebraska.

SECTION 9

That any resolutions or ordinances passed and approved prior to the passage and approval of this Resolution and in conflict herewith are hereby repealed.

SECTION 10

This Resolution shall take effect and be in full force and effect from and after its passage and approval as required by law and shall be implemented by personnel of the Department of Utilities for the City, commencing with sewer usage in the month of October 2012.

PASSED AND APPROVED this 1st day of _____, 2014

_____

_____

Chairman of the Board of Public Works

City of _____, Nebraska

ATTEST:

_____

CITY CLERK


PROFESSIONAL CIVIL ENGINEER
JAMES L.
CONDON
E-4508
5-13-20
STATE OF NEBRASKA