

RE: PROPOSED WASTEWATER RATE STRUCTURE

Background:

For your consideration is an ordinance adopting a new wastewater rate structure establishing periodic increases to the City of Nixa's wastewater rates through the year 2030. The City of Nixa performs a wastewater rate study on a revolving 5-year basis to determine what rate increases, if any, are necessary to fund anticipated increases in annual expenses for operations and capital outlays over the coming years.

Last year the city hired Allgeier, Martin and Associates to draft an updated Wastewater Masterplan. The updated master plan serves as a planning guide to aid the city in preparing for wastewater system improvements over the next 20 years to accommodate both existing and anticipated future customers. The master plan compiled data to establish design conditions for the city's wastewater facilities today and determine what improvements to those facilities were needed to continue efficient operations while also anticipating growth through the year 2044.

Utilizing the updated Master Plan prepared by Allgeier, Martin and Associates, Shaffer & Hines prepared a wastewater rate study to establish incremental increases to the rate necessary to fund future anticipated annual operations, maintenance, equipment purchases, and capital projects identified in the master plan. Because everything changes so quickly, predicting revenue needs past five years is pure guesswork. A rate study focused on the next five years provides a level of confidence that the proposed rates will support the revenues needed for operations and capital outlays.

Analysis:

It is recommended that the city increases the base wastewater rate by \$1.50 and usage rate by \$1.00/1,000 gallons in 2025. The base rate and usage rate would then be increased by \$1.00 in 2026, \$0.50 in 2027, \$0.50 in 2028, \$0.50 in 2029, \$0.50 in 2030. Users outside city limits would continue to pay 1.5 times the rates paid by users inside the city.

To establish the proposed rate structure, Shaffer & Hines looked at several factors to anticipate needed revenues to fund operations and maintain a healthy reserve balance. For each year through 2030, the study looked at anticipated sales revenue, routine operations and maintenance, employment costs, capital improvements & equipment as well as bond repayments.

The city has always strived to maintain a healthy reserve balance. Having adequate reserves will better position Nixa to continue to provide reliable services, maintain

financial stability, ensure stable rates for customers, and fund large unanticipated expenses. To accomplish this, rates are structured to cover operational and capital costs while maintaining a healthy reserve balance.

In determining the proposed rate structure, Shaffer & Hines anticipated an annual customer growth rate of 2.5% along with an increase in operation and maintenance costs of 6%. Both factors were based on historical data from the past five years. Using these two factors and applying the proposed rate structure, the existing reserve balance of \$23,392,420.00 will remain steady with an anticipated reserve balance of \$23,399,399.56 in 2030 based on the rate studies included assumptions.

Absent the proposed rate increase, the balance in the wastewater fund will be reduced from \$23,392,420.00 to 11,040,031.73 resulting in a significant reduction in the fund balance. Keeping a healthy reserve balance is necessary to ensure that the city can respond to any unforeseen issues with the wastewater system without having to burden customers with sudden and significant rate increases.

Included in the packet of information is a spreadsheet that shows revenues resulting from the proposed rate structure including anticipated residential, commercial, and impact fees along with anticipated annual expenses.

For discussion purposes the spreadsheet included shows the effects the proposed increase will have on an average monthly sewer bill for the customer utilizing an average monthly water usage of 5,000 gallons.

Recommendation:

Staff supports the proposed rate structure as submitted by Shaffer & Hines establishing incremental increases to the wastewater rate through 2030.

MEMO PREPARED BY:

Travis Cossey | Asst. Director Nixa Utilities & Public Works

417-725-2353

SEWER UTILITY COST COMPARISON



OPTION 3

Current base rate \$13.75 and usage rate \$4.18/1,000 Gallons (In Year 2024)
Assumes Rate of \$13.75 + \$4.18/1,000 Gallons

Raise base rate by \$1.50 and usage rate by \$1.00/1,000 Gallons (In Year 2025)
Assumes Rate of \$15.25 + \$5.18/1,000 Gallons

Raise base rate by \$1.00 and usage rate by \$1.00/1,000 Gallons (In Year 2026)
Assumes Rate of \$16.25 + \$6.18/1,000 Gallons

Raise base rate by \$0.50 and usage rate by \$0.50/1,000 Gallons (In Year 2027)
Assumes Rate of \$16.75 + \$6.68/1,000 Gallons

Raise base rate by \$0.50 and usage rate by \$0.50/1,000 Gallons (In Year 2028)
Assumes Rate of \$17.25 + \$7.18/1,000 Gallons

Raise base rate by \$0.50 and usage rate by \$0.50/1,000 Gallons (In Year 2029)
Assumes Rate of \$17.75 + \$7.68/1,000 Gallons

Raise base rate by \$0.50 and usage rate by \$0.50/1,000 Gallons (In Year 2030)
Assumes Rate of \$18.25 + \$8.18/1,000 Gallons

Year 2024
Current Monthly Sewer Bill
(5,000 gallon Usage)

$(\$13.75)(1) + (4.18)(5) = \34.65

Year 2025
Proposed Monthly Sewer Bill
(5,000 gallon Usage)

$(\$15.25)(1) + (5.18)(5) = \41.15

Year 2026
Proposed Monthly Sewer Bill
(5,000 gallon Usage)

$(\$16.25)(1) + (6.18)(5) = \47.15

Year 2027
Proposed Monthly Sewer Bill
(5,000 gallon Usage)

$(\$16.75)(1) + (6.68)(5) = \50.15

Year 2028
Proposed Monthly Sewer Bill
(5,000 gallon Usage)

$(\$17.25)(1) + (7.18)(5) = \53.15

Year 2029
Proposed Monthly Sewer Bill
(5,000 gallon Usage)

$(\$17.75)(1) + (7.68)(5) = \56.15

Year 2030
Proposed Monthly Sewer Bill
(5,000 gallon Usage)

$(\$18.25)(1) + (8.18)(5) = \59.15

Year	Estimated Users @2.5% Growth Rate			Estimated Revenue Generated at 2.5% Growth Rate				
	Residential Users	Commercial Users	Total Users	Residential Revenue	Commercial Revenue	Misc. Revenue	Impact Fees	Total Revenue
2022				\$0.00	\$0.00			
2023				\$0.00	\$0.00			
2024				\$0.00	\$0.00			\$3,875,684.90
2025	9,198	498	9,697	\$4,542,145.23	\$245,986.47	\$11,615.79	\$350,000.00	\$5,149,747.49
2026	9,428	511	9,939	\$5,334,537.09	\$288,899.60	\$11,906.18	\$350,000.00	\$5,985,342.88
2027	9,664	523	10,187	\$5,815,805.11	\$314,963.37	\$12,203.84	\$350,000.00	\$6,492,972.32
2028	9,906	536	10,442	\$6,317,802.45	\$342,149.76	\$12,508.94	\$350,000.00	\$7,022,461.15
2029	10,153	550	10,703	\$6,841,264.77	\$370,498.63	\$12,821.66	\$350,000.00	\$7,574,585.06
2030	10,407	564	10,971	\$7,386,951.58	\$400,051.09	\$13,142.20	\$350,000.00	\$8,150,144.87

Assumes 6% O&M Increase New Rate (OPTION 3) Revenue vs Expense			
Year	Annual Revenue At 2.5% Growth Rate	Annual Expense	Balance In Wastewater Fund
2022			-
2023			\$23,392,420.00
2024	\$3,875,684.90	\$3,703,533.66	\$23,564,571.24
2025	\$5,149,747.49	\$8,131,880.49	\$20,582,438.24
2026	\$5,985,342.88	\$6,700,561.54	\$19,867,219.58
2027	\$6,492,972.32	\$5,909,062.87	\$20,451,129.02
2028	\$7,022,461.15	\$6,410,817.01	\$21,062,773.16
2029	\$7,574,585.06	\$6,544,392.67	\$22,092,965.55
2030	\$8,150,144.87	\$6,843,710.87	\$23,399,399.56

1 **AN ORDINANCE OF THE COUNCIL OF THE CITY OF NIXA AMENDING CHAPTER**
2 **22, ARTICLE II, DIVISION 6, SECTION 22-243 OF THE NIXA CITY CODE FOR THE**
3 **PURPOSE OF AMENDING THE CITY’S WASTEWATER RATES THROUGH 2030.**
4

5 **WHEREAS** the City typically performs a wastewater rate study on a revolving 5-
6 year basis to determine what rate adjustments may be needed to fund anticipated
7 increases for the operation of the City’s wastewater treatment system; and
8

9 **WHEREAS** the City has engaged the engineering firm Shaffer & Hines, Inc. to
10 prepare a wastewater rate study; and
11

12 **WHEREAS** said study is attached hereto as “Council Bill Exhibit A”; and
13

14 **WHEREAS** based on this study, it is staff’s recommendation to increase the rates
15 applicable to wastewater service; and
16

17 **WHEREAS** the City Council desires to modify the City Code as set forth herein.
18

19 **NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF**
20 **NIXA, AS FOLLOWS, THAT:**
21

22 **SECTION 1:** Chapter 22, Article II, Division 6, Section 22-243 of the Nixa City Code
23 is hereby amended by repealing said Section in its entirety and adopting in lieu thereof a
24 new Section 22-243, which said Section shall read as follows (Explanation: Language in
25 bold-face type (e.g., **thus**) is language to be to be added. Language in bold-faced
26 brackets (e.g., [~~thus~~]) is not enacted and is intended to be omitted or deleted.):
27

28 Sec. 22-243. – Sewer service charge rates.
29

- 30 (a) All users, other than occupied residential units, with the exception of owners of
31 vacant, unoccupied single-family residential units as noted below shall be billed on
32 the basis of all monthly water consumption as determined by monthly water meter
33 reading. The city shall collect sewer service charges for the use of, and the services
34 rendered by said sanitary sewer system from the owners or occupants of each
35 residence, building or structure, which is connected to the sanitary sewer system of
36 the city. Owners of vacated, unoccupied single-family residential units, who have
37 given notification to the utility billing department that utility service to the single-family
38 residence is no longer required but wish to continue using their irrigation system,
39 shall be billed for minimum base sewer service charge.
40
- 41 (b) The rates and charges established by this article shall be applied to the water
42 consumption billed after this article shall have been placed in effect, except as herein
43 otherwise provided. In order that the least sewer service charge to the residential
44 water consumers for water used to maintain lawns, gardens, flowers, shrubs, trees,
45 etc., water usage shall be derived from water consumption recorded in periods when
46 such activities are reduced.

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- (c) For the months of January, February and March, the basis of the occupied residential bills shall be based on the current monthly water consumption. In computing the residential bills for the remaining nine months consisting of April, May, June, July, August, September, October, November and December, the average of the monthly meter reading taken between January and March shall be used.
- (d) In cases where a residence first becomes subject to the sewer services charges established herein and that date is after the meter reading date in May and no water meter reading was taken before such date, the owner or occupant of such residence shall be billed the customer service charge plus a volume charge, as determined by the city until a basis can be established as herein provided.
- (e) In multiple housing complexes or combinations of multiple housing units, apartment housing units, trailer park pads or spaces, the number of users shall be the number of dwelling units connected to the sewer system whether served by individual water meters or by a single master water meter or private water supply. Where a single water meter or private water supply serves multiple housing complexes, the number of dwelling units shall be used in computing charges, whether or not all units are occupied.
- (f) The charges per month shall be as set forth herein:
 - (1) *Monthly base rates.*
 - a. ~~[Beginning January 1, 2023, the base rate shall be \$13.25.]~~ **Beginning April 1, 2025, the base rate shall be \$15.25.**
 - b. ~~[Beginning January 1, 2024, the base rate shall be \$13.75.]~~ **Beginning January 1, 2026, the base rate shall be \$16.25.**
 - c. ~~[Beginning January 1, 2025, the base rate shall be \$14.25.]~~ **Beginning January 1, 2027, the base rate shall be \$16.75.**
 - d. ~~[Beginning January 1, 2026, the base rate shall be \$14.75.]~~ **Beginning January 1, 2028, the base rate shall be \$17.25.**
 - e. **Beginning January 1, 2029, the base rate shall be \$17.75.**
 - f. **Beginning January 1, 2030, the base rate shall be \$18.25.**
 - (2) *Rates usage.* In addition to the base rates established herein, an additional rate, as established below, shall be charged:

- 91 a. ~~[Beginning January 1, 2023, the usage rate shall be \$4.14 per 1,000 gallons~~
 92 ~~of water consumption.] Beginning April 1, 2025, the usage rate shall be~~
 93 **\$5.18 per 1,000 gallons of water consumption.**
- 94
- 95 b. ~~[Beginning January 1, 2024, the usage rate shall be \$4.18 per 1,000 gallons~~
 96 ~~of water consumption.] Beginning January 1, 2026, the usage rate shall~~
 97 **be \$6.18 per 1,000 gallons of water consumption.**
- 98
- 99 c. ~~[Beginning January 1, 2025, the usage rate shall be \$4.23 per 1,000 gallons~~
 100 ~~of water consumption.] Beginning January 1, 2027, the usage rate shall~~
 101 **be \$6.68 per 1,000 gallons of water consumption.**
- 102
- 103 d. ~~[Beginning January 1, 2026, the usage rate shall be \$4.27 per 1,000 gallons~~
 104 ~~of water consumption.] Beginning January 1, 2028, the usage rate shall~~
 105 **be \$7.18 per 1,000 gallons of water consumption.**
- 106
- 107 e. **Beginning January 1, 2029, the usage rate shall be \$7.68 per 1,000**
 108 **gallons of water consumption.**
- 109
- 110 f. **Beginning January 1, 2030, the usage rate shall be \$8.18 per 1,000**
 111 **gallons of water consumption.**
- 112

113 (g) Except as otherwise provided herein, the sewer service charge shall be based
 114 on the quantity of water used on or in the property or premises subject to such
 115 charges and shall be computed by applying the rates established; and shall be
 116 payable as herein provided.
 117

118 **SECTION 2:** The City Attorney, when codifying the provisions of this Ordinance, is
 119 authorized to provide for different section numbers, subsection numbers, and different
 120 internal citation references than those provided herein when such section numbers,
 121 subsection numbers, or internal citation references are in error or are contrary to the intent
 122 of this Ordinance.
 123

124 **SECTION 3:** Savings Clause. Nothing in this Ordinance shall be construed to
 125 affect any suit or proceeding now pending in any court or any rights acquired, or liability
 126 incurred nor any cause or causes of action occurred or existing, under any act or
 127 ordinance repealed hereby.
 128

129 **SECTION 4:** Severability Clause. If any section, subsection, sentence, clause, or
 130 phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect
 131 the validity of the remaining portions of this Ordinance. The Council hereby declares that
 132 it would have adopted the Ordinance and each section, subsection, sentence, clause, or
 133 phrase thereof, irrespective of the fact that any one or more sections, subsections,
 134 sentences, clauses, or phrases be declared invalid.
 135

S&H PROJECT # 242003
GWS

**USER CHARGE RATE STRUCTURE EVALUATION
BASED ON
PROPOSED CAPITAL IMPROVEMENTS AND EQUIPMENT PURCHASES
FOR THE CITY'S WASTEWATER FACILITIES**

**Prepared For
THE CITY OF NIXA, MISSOURI**

**December, 2024
(Revised January, 2025)**

**SHAFFER & HINES, INC.
CONSULTING ENGINEERS
P.O. Box 493 - 112 S. Main
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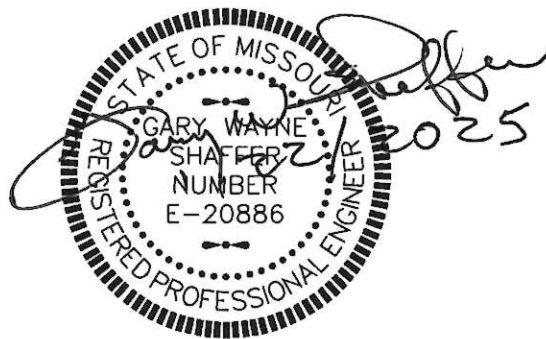


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I. FINDINGS & RECOMMENDATIONS

A. Findings:

1. Current wastewater user charge rate for users is a flat fee of \$14.25 plus \$4.23 per 1,000 gallons. This rate applies to both residential users and commercial users.
2. Wastewater users outside the city limits is a flat rate of \$14.25 plus \$6.35 per 1,000 gallons.
3. The City of Nixa currently provides wastewater collection and treatment facilities to approximately 8,974 residential and 486 commercial users within the City.
4. The City's average daily wastewater generated for the first eight months of 2024 from users is anticipated to be approximately 1,664,657 gallons per day.
5. In the past six years from 2019 through 2024 the total number of wastewater users has increased at an average rate of approximately 2.17% annually. (Exhibit I)
6. In the past six years between 2019 and 2024 population growth has increased at an average rate of approximately 2.89% annually. (Exhibit II)
7. Based on this historical data the City's projected annual rate of population growth and number of wastewater users, for purposes of this report, was assumed to increase annually by 2.50%.
8. Assuming an annual increase in population and wastewater flow of 2.50% will result in 2,121,558 gallons per day of wastewater being generated from a population of 30,219 people or 10,971 wastewater users in the year 2030.
9. The theoretical capacity of the City's existing wastewater treatment plant is 4,000,000 gallons per day with the ability to treat the wastewater generated from a population of 40,000 people.
10. The theoretical capacity of the existing wastewater treatment plant will be adequate through year 2030, the design year of this study, and beyond. However, during high rainfall events, peak flows to the plant increase significantly due to inflow/infiltration creating potential operational problems.
11. Planned improvements to the wastewater collection and treatment system over the next 5 years were developed and consist of the following:

- a. Providing an emergency generator to provide backup power at the lift station serving Tuscany Hills subdivision to be installed in 2025 at an estimated cost of \$80,000.00.
- b. Purchasing a sludge hauling vehicle to allow for land applying wastewater sludge from the treatment plant to be purchased in 2025 at an estimated cost of \$300,000.00.
- c. Replacement of the ultraviolet disinfection system at the wastewater treatment plant to be completed in 2025 at an estimated cost of \$625,000.00.
- d. Construction of the west regional lift station/forcemain to provide sanitary sewer service to western portions of the City of Nixa to be completed in 2025 and 2026 at an estimated cost of \$4,320,000.00.
- e. Construction of an aerated wastewater sludge storage basin at the wastewater treatment plant to be completed in 2025 at an estimated cost of \$1,000,000.00.
- f. Construction of an equipment storage building at the City's recycling center to be completed in 2025 at an estimated cost of \$150,000.00.
- g. Expansion of the City's composting facility to increase its capacity to be completed in 2025 at an estimated cost of \$350,000.00.
- h. Providing an emergency generator to provide backup power at the lift station serving Bentwater subdivision to be completed in 2025 at an estimated cost of \$33,000.00.
- i. Replacement of the control panel at the Super 8 Motel lift station to be completed in 2025 at an estimated cost of \$17,000.00.
- j. Purchase of a sanitary sewer rover camera to allow for inspection of the City's wastewater collection system in 2025 at an estimated cost of \$155,000.00.
- k. Replacement of the control panel at the Blue Bird Hills subdivision to be completed in 2025 at an estimated cost of \$55,000.00.
- l. Providing a bioxide storage tank and feed pump system at the Inman School lift station for odor control to be completed in 2025 at an estimated cost of \$60,000.00.

- m. Providing a limb drop off site for the City's composting facility to be completed in 2025 at an estimated cost of \$12,000.00.
 - n. Replacement of the variable speed drivers and mixers at oxidation ditch number three to be completed in 2026 at an estimated cost of \$625,000.00.
 - o. Providing interior lining to clarifiers at the City's wastewater treatment plant to be completed in 2026 at an estimated cost of \$700,000.00.
 - p. Purchasing a vactor truck as a backup/replacement for the existing truck to be completed in 2027 at an estimated cost of \$375,000.00.
 - q. Purchasing a wastewater sludge centrifuge to increase the sludge dewatering capacity at the wastewater treatment plant to be completed in 2028 at an estimated cost of \$500,000.00.
12. Existing wastewater collection facilities located within the older areas of the City have been the source of inflow/infiltration in the past and instances of structural inadequacies in the lines have been discovered.
 13. Starting in 2009 the City initiated an annual program of replacing or relining existing collection lines within the older portions of the City. Currently the City budgets \$300,000 annually for these improvements and this practice will continue through the year 2030.
 14. The total expenditure due to the proposed capital improvement projects and equipment purchases starting in year 2025 and ending in year 2030 is anticipated to be approximately \$12,524,657.19.
 15. Due to difficulties in determining the need for and nature of capital improvement projects and equipment purchases which will be required farther out in the future it was assumed that \$500,000 would be spent annually on capital improvement projects and equipment purchases for the wastewater facilities in the years 2029 and 2030.
 16. Currently the City has an unrestricted wastewater fund balance of approximately \$3,287,787. In discussions with City staff it was decided to move \$750,000 annually in unrestricted funds to restricted funds to be designated for future upgrades to the City's wastewater treatment plant in years 2025 through 2030.
 17. The latest audit report indicates annual revenues from the treatment of wastewater, revenue from sewer impact fees and miscellaneous wastewater fees for 2023 was projected to be approximately \$3,781,156.00.

18. The annual expenses from operation of the wastewater facilities for 2023, including debt retirement, capital improvement projects, equipment purchases and annual sewer rehabilitation was projected to be approximately \$3,516,792.00.
19. Based on historical data annual expenditures required for operation and maintenance of the City's wastewater facilities has increased at a rate of approximately 6 percent per year. (Exhibit IV)
20. The City has one outstanding 2013 bond payment of \$55,000.00, which was issued for construction of the northwest regional lift station, will be retired on June 1, 2025. In order to fund the West Regional Lift Station Project a bond will be required and the annual payment is anticipated to be \$55,756.00.
21. Table 1 indicates the proposed wastewater user charge rate structure which is felt to be necessary to keep pace with increasing expenditures due to operation and maintenance, debt retirement payments, capital improvement projects, wastewater fund transfers and equipment purchases that are proposed in this report.
22. Table 2 indicates those capital improvement projects and equipment purchases which are felt to be necessary to ensure adequate wastewater collection, treatment and pumping facilities.
23. Table 3 indicates the anticipated total combined expenses associated with operating the wastewater facilities during the next six years.
24. Table 4 indicates the anticipated total combined revenues associated with operating the wastewater facilities during the next six years assuming that the proposed wastewater user charge rate structure takes effect in 2025.
25. Table 5 compares the combined revenue with the combined expenses under the proposed user rate structure increase.
26. During discussions with City staff it was felt that maintaining an available balance in the unrestricted wastewater fund of approximately 3 months, or \$700,000, would be desirable.
27. Under the proposed user charge rate structure, and assuming the proposed capital improvement projects and equipment purchases are implemented as indicated in this report, the available balance in the wastewater fund will be approximately \$23,399,399.56 in the year 2030.

B. Recommendations:

1. That the City of Nixa implement the proposed user charge rate structure presented in Table 1 on the following page which was determined to be sufficient to provide the proposed wastewater collection, treatment and pumping improvements proposed in this study through the year 2030.

The proposed wastewater user charge rate structure consists of the following rate increases.

Year 2025

Increase the existing flat rate of \$14.25 by \$1.00 to \$15.25 and the existing usage rate of \$4.23/1,000 gallons by \$0.95/1,000 gallons to \$5.18/1,000 gallons.

Year 2026

Increase the Year 2025 flat rate of \$15.25 by \$1.00 to \$16.25 and the Year 2025 usage rate of \$5.18/1,000 gallons by \$1.00/1,000 gallons to \$6.18/1,000 gallons.

Year 2027

Increase the Year 2026 flat rate of \$16.25 by \$0.50 to \$16.75 and the Year 2026 usage rate of \$6.18/1,000 gallons by \$0.50/1,000 gallons to \$6.68/1,000 gallons.

Year 2028

Increase the Year 2027 flat rate of \$16.75 by \$0.50 to \$17.25 and the Year 2027 usage rate of \$6.68/1,000 gallons by \$0.50/1,000 gallons to \$7.18/1,000 gallons.

Year 2029

Increase the Year 2028 flat rate of \$17.25 by \$0.50 to \$17.75 and the Year 2028 usage rate of \$7.18/1,000 gallons by \$0.50/1,000 gallons to \$7.68/1,000 gallons.

Year 2030

Increase the Year 2029 flat rate of \$17.75 by \$0.50 to \$18.25 and the Year 2029 usage rate of \$7.68/1,000 gallons by \$0.50/1,000 gallons to \$8.18/1,000 gallons

It should be noted that should additional capital improvement projects be undertaken by the City which are not included in this report, additional rate increases may be required.

After 2030 it is recommended that a reevaluation of the rate structure take place.

CITY OF NIXA, MISSOURI SEWER RATE STUDY			
TABLE 1			
WASTEWATER USER CHARGE MONTHLY RATE INCREASE STARTING IN YEAR 2025 ASSUMING 5,000 GALLON MONTHLY USAGE			
Year	Typical Residential Sewer Bill @ Current Rate	Typical Residential Sewer Bill With Rate Increase	Avg. Increase in Monthly Bill
2024	\$34.65	\$34.65	\$0.00
2025	\$35.40	\$41.15	\$5.75
2026	\$35.40	\$47.15	\$11.75
2027	\$35.40	\$50.15	\$14.75
2028	\$35.40	\$53.15	\$17.75
2029	\$35.40	\$56.15	\$20.75
2030	\$35.40	\$59.15	\$23.75

2. The City of Nixa implement the proposed wastewater collection, treatment and pumping improvements over the next six years. Those proposed improvements are presented in Table 2 located in Section III of this report.

II. INTRODUCTION

A. Purpose

The purpose of this report was to determine the required increase to the City of Nixa's current wastewater user charge rate structure which would provide adequate funding for desired capital improvements and equipment purchases for the City's wastewater facilities over the next six years.

B. Scope

In order to develop the required increase in the existing wastewater user charge rate structure it was necessary to determine all existing and anticipated revenues vs. expenses for the wastewater collection, treatment and pumping facilities as well as planned equipment purchases.

Past and present revenues from the sale of wastewater, hookups, permits and sewer impact fees were determined then compared to the anticipated expenses. The anticipated expenses for the wastewater facilities will result from routine operation and maintenance, planned capital improvement projects, equipment purchases, additional employees, the annual sewer line rehabilitation program and existing and future bonded indebtedness.

C. Study Period

For purposes of this study the planning period was assumed to be six years beginning in the year 2025 and ending at the end of year 2030. The proposed improvements and equipment purchases presented in the report are felt to be necessary to maintain the adequacy of the City's wastewater facilities. It should be noted however, that due to the inherent uncertainties associated with population predictions, development trends and construction cost increases, the capital improvement projects and equipment purchases proposed in this report as well as the proposed user charge rate structure should be reviewed and, if necessary, revised every three to five years. This becomes more relevant if actual expenditures on capital improvement projects or equipment purchases exceed those indicated in this report.

III. SCHEDULE OF PROPOSED IMPROVEMENTS

As will be seen in this section of the report, to accurately determine the revenue needed for each proposed improvement or equipment purchase it was necessary to develop a project priority ranking system indicating what year the various capital improvement projects or equipment purchases would be implemented. This was based on discussions with City staff, review of current wastewater deficiencies, anticipated population growth and the resulting wastewater generated.

Table 2 identifies the particular expenditure, the year in which it will be implemented, its general location, a brief description of the project or equipment purchase, justification for the expenditure and the estimated cost associated with the project or equipment purchase. The proposed capital improvement projects and equipment purchases will occur each year beginning in 2025 and ending in 2030.

Note that due to difficulties in determining the need for capital improvements or equipment purchases farther off in the future it was assumed that \$500,000 would be budgeted annually in 2029 and 2030 to be used for capital improvement projects and equipment purchases for the wastewater facilities.

**TABLE 2
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2025**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2025	Wastewater	Public Works	Tuscany Hill Emergency Generator	Tuscany Hill Subdivision	Provide emergency power at lift station serving Tuscany Hills	Required Back-Up power at existing lift station	\$80,000
2025	Wastewater	Public Works	Sludge Hauling Vehicle	Various	Provide a sludge hauling vehicle for land applying wastewater sludge	The existing sludge hauling vehicle is nearing the end of its useful life	\$300,000
2025	Wastewater	Public Works	Ultra Violet Replacement @ WWTP	Nixa WWTP	Replacement of UV disinfection system at WWTP	The existing UV system is nearing the end of its useful life	\$625,000
2025	Wastewater	Public Works	Const. of West Regional Lift Station/forcemain	Oakmont Hills Sub.	Replace/Enlarge existing lift station serving Oakmont Hills Subdivision	Provide an upgraded lift station for developable areas in the western portion of the city	\$55,756*
2025	Wastewater	Public Works	Waste Sludge Basin @ Nixa WWTP	Nixa WWTP	Construction of aerated sludge basin	To provide additional sludge storage at the WWTP	\$1,000,000
2025	Wastewater	Public Works	Buildings	Nixa WWTP	Composting facility expansion @ WWTP	Expanding the composting facility	\$350,000
2025	Wastewater	Public Works	Buildings	Nixa WWTP	Construct Storage Building for the Recycling Center	A new storage building for the recycling center	\$150,000
2025	Wastewater	Public Works	Bentwater Emergency Generator	Bentwater Subdivision	Provide emergency power at lift station serving Bentwater	Required Back-Up power at existing lift station	\$33,000

*Anticipated Annual Bond Payment

**TABLE 2
(CONTINUED)
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2025**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2025	Wastewater	Public Works	Control Panel Replacement	Super 8 Motel	Replacement of an existing control panel	The existing control panel is nearing the end of its useful life and must be replaced.	\$17,000
2025	Wastewater	Public Works	Sanitary Sewer Rover Camera	Various	Purchase of a sanitary sewer rover camera	To allow for inspection of the City's wastewater collection system	\$155,000
2025	Wastewater	Public Works	Control Panel Replacement	Blue Bird Hills Subdivision	Replacement of an existing control panel	The existing control panel is nearing the end of its useful life and must be replaced	\$55,000
2025	Wastewater	Public Works	Bioxide Storage Tank/Feed Pump	Inman School	Providing a bioxide system for odor control	There is currently no bioxide system for odor control	\$60,000
2025	Wastewater	Public Works	Limb Drop Off	Composting Facility	Providing a limb drop off site for the City's composting facility	There is currently no formal limb drop off site at the composting facility	\$12,000

**TABLE 2
(CONTINUED)
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2026**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2026	Wastewater	Public Works	Variable Speed Driver Replacement	Nixa WWTP	Replacement of the variable speed drivers at the Nixa WWTP	The existing variable speed drivers are nearing the end of their useful life and must be replaced.	\$625,000
2026	Wastewater	Public Works	Secondary Clarifier Interior Lining	Nixa WWTP	Providing interior lining to clarifiers at the Nixa WWTP	The existing lining has begun to deteriorate	\$700,000

**TABLE 2
(CONTINUED)
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2027**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2027	Wastewater	Public Works	Vactor Truck	Nixa WWTP	Purchase of a vactor truck as a backup/replacement for the existing truck	Existing vactor truck is reaching the end of its useful life	\$375,000

**TABLE 2
(CONTINUED)
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2028**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2028	Wastewater	Public Works	Centrifuge	Nixa WWTP	Providing a centrifuge at the sludge dewatering structure	To allow for increased dewatering capacity	\$500,000

**TABLE 2
(CONTINUED)
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2029**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2029	Wastewater	Public Works	Future Unidentified Projects	Various	Anticipated expenses not currently included in the City's long range Capital Improvement Program	To allow for future expenditures as they occur.	\$500,000

**TABLE 2
(CONTINUED)
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**CAPITAL IMPROVEMENT PROJECTS
FOR THE YEAR 2030**

Year	Department	Submitted By	Project Title	Location	Description	Justification And/Or Alternatives	Estimated Cost
2030	Wastewater	Public Works	Future Unidentified Projects	Various	Anticipated expenses not currently included in the City's long range Capital Improvement Program	To allow for future expenditures as they occur.	\$500,000

IV. DISCUSSION OF ANNUAL EXPENSE VS REVENUE

The basic methodology used to arrive at the proposed wastewater rate structure increase proposed in this report is presented in this Section. To insure that adequate funds are available to operate and maintain the wastewater facilities while making the required improvements, additional staffing and equipment purchases, it was necessary to compare existing and anticipated annual expenses to existing and anticipated annual revenues.

Annual Expenses result from routine operation and maintenance costs associated with the wastewater facilities, repayment of outstanding and anticipated bond debt, continuation of an existing annual sewer line rehabilitation program, annual transfers from the unrestricted wastewater fund for future treatment plant upgrades, required capital improvement projects, staffing increases and proposed equipment purchases. Table 3 presents a summary of the total combined annual expenses for the years beginning in 2024 and ending in 2030.

As mentioned previously it was assumed that, during the years 2029 and 2030, a budget figure of \$500,000 would be spent annually on capital improvement projects and equipment purchases for the City's wastewater facilities.

Annual Revenues result primarily from making the City's wastewater treatment and collection facilities available to wastewater users for a monthly fee. To predict the anticipated number of users in this report a population growth rate of 2.5% was utilized. This was based on historical data which suggests that since 2020 the average population increase for the last five years has been approximately 2.5% annually. Likewise, between 2020 and 2024 the average increase of wastewater users was determined to be approximately 1.25% annually. Justification for the use of these annual increases can be found in Exhibits I and II.

While the sale of wastewater provides the bulk of revenue for the wastewater facilities, additional revenues are also generated through sewer connection fees, permits and sewer impact fees. A review of the City's Statement of Revenues, Expenses and changes in Net Position for the years 2020 through 2023 to determine reasonable anticipated revenues between 2025 and 2030. Table 4 presents a summary of the projected total combined annual revenues for these years.

A more detailed discussion of both annual operating expenses and annual operating revenues is presented following Tables 3 and 4.

**TABLE 3
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**EXPENSE PROJECTION FROM ALL SOURCES
ASSUMES O&M AT WWTP INCREASES AT 6%**

Year	Routine O&M for Wastewater	Debt Payments for Wastewater	Capital Improvements for Wastewater	Annual Sewer Rehabilitation and Employees	Transfers to Reserve Fund	Total Combined Expenses
2024	\$3,703,533.66	\$123,163.00	\$350,000.00	\$300,000.00	\$300,000.00	\$4,776,696.66
2025	\$3,925,745.68	\$55,576.00	\$3,124,657.00	\$300,000.00	\$700,000.00	\$8,106,158.68
2026	\$4,161,290.42	\$55,576.00	\$1,391,250.00	\$365,000.00	\$700,000.00	\$6,673,296.42
2027	\$4,410,967.85	\$55,576.00	\$413,438.00	\$300,000.00	\$700,000.00	\$5,880,161.85
2028	\$4,675,625.92	\$55,576.00	\$578,800.00	\$370,000.00	\$700,000.00	\$6,380,181.92
2029	\$4,956,163.47	\$55,576.00	\$500,000.00	\$300,000.00	\$700,000.00	\$6,511,919.47
2030	\$5,253,533.28	\$55,576.00	\$500,000.00	\$300,000.00	\$700,000.00	\$6,809,289.28

**TABLE 4
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**REVENUE PROJECTION FROM ALL SOURCES
UNDER CURRENT AND PROPOSED RATE STRUCTURE**

Year	Residential Users	Commercial Users	Total Users	Revenue from WW sales	Revenue from Hookups, Misc.	Revenue from Sewer Impact	Total Revenue Generated
2024							\$3,875,684.90
2025	9,198	498	9,697	\$4,788,131.70	\$11,615.79	\$350,000.00	\$5,149,747.49
2026	9,428	511	9,939	\$5,623,436.69	\$11,906.18	\$350,000.00	\$5,985,342.88
2027	9,664	523	10,187	\$6,130,768.48	\$12,203.84	\$350,000.00	\$6,492,972.32
2028	9,906	536	10,442	\$6,659,952.21	\$12,508.94	\$350,000.00	\$7,022,461.15
2029	10,153	550	10,703	\$7,211,763.40	\$12,821.66	\$350,000.00	\$7,574,585.06
2030	10,407	564	10,971	\$7,787,002.67	\$13,142.20	\$350,000.00	\$8,150,144.87

Assumes proposed rate structure increase is implemented in the year 2025
assumes 2.50% growth rate after 2024

Assumes revenue generated under new rate structure after year 2024
assumes 2.50% growth rate from users

A. Determination of Annual Operating Expenses

1. Routine Operation and Maintenance Costs for Operation of the Existing Wastewater Collection, Treatment and Pumping Facilities

The largest operating expense associated with the wastewater facilities is the daily operation and maintenance of the wastewater treatment plant, pumping stations and collection system. To operate and maintain these facilities requires manpower, equipment and supplies. Working with City staff, historical operation and maintenance data from the wastewater facilities was obtained and analyzed. Due to its somewhat variability from year to year it was difficult to arrive at a predicted annual increase. Exhibit IV presents the methodology utilized to indicate that between 2020 and 2024 operation and maintenance costs increased at approximately 6 percent per year. For purposes of this report, it was assumed that operation and maintenance costs would continue to increase at this rate for the next six year period. Based on this assumption the anticipated costs are presented in Table 5.

TABLE 5 CITY OF NIXA, MISSOURI SEWER RATE STUDY ROUTINE O&M COSTS ASSUMES O&M AT WASTEWATER FACILITIES INCREASES AT 6%	
Year	Routine O&M for Wastewater
2024	\$ 3,703,533.66
2025	\$ 3,925,745.68
2026	\$ 4,161,290.42
2027	\$ 4,410,967.85
2028	\$ 4,675,625.92
2029	\$ 4,956,163.47
2030	\$ 5,253,533.28

2. Annual Debt Repayment Schedule for Wastewater Facilities

The City currently one outstanding series 2013 bond (NW Regional Lift Station). These bonds were issued for wastewater facilities improvements made in the past but will be retired in 2025. It is anticipated that bonds will be required to make the southwest regional lift station improvements and will be issued in 2025. The bond payments are considered to be an annual operating expense and have been taken into account in this report as presented in Table 6.

**TABLE 6
CITY OF NIXA, MISSOURI
SEWER RATE STUDY

ANNUAL DEBT REPAYMENT SCHEDULE
FOR WASTEWATER FACILITIES**

Year	2013 NW Lift Station P+i	2025 SW Lift Station P+i	2001 WWTP SRF P+i	Total Combined Bond Payment P+i
2024	\$ 123,163.00	\$ 0.00	\$ 0.00	\$ 123,163.00
2025	\$ 0.00	\$ 55,756.00	\$ 0.00	\$ 55,756.00
2026	\$ 0.00	\$ 55,756.00	\$ 0.00	\$ 55,756.00
2027	\$ 0.00	\$ 55,756.00	\$ 0.00	\$ 55,756.00
2028	\$ 0.00	\$ 55,756.00	\$ 0.00	\$ 55,756.00
2029	\$ 0.00	\$ 55,756.00	\$ 0.00	\$ 55,756.00
2030	\$ 0.00	\$ 55,756.00	\$ 0.00	\$ 55,756.00

3. Proposed Capital Improvements and Equipment purchases for the Wastewater Collection, Treatment and Pumping Facilities

In order to estimate capital improvement and equipment purchase costs it was necessary to determine what improvements to the wastewater collection, treatment and pumping facilities would be required. To do this, discussions with City personnel were held, population projections for the years 2020 through 2026 were developed and average and maximum day wastewater volumes were predicted. These were then compared to the City's existing wastewater collection, treatment and pumping facilities to determine their adequacy.

Note that due to difficulties in determining the need for capital improvement

projects or equipment purchases farther out in the future it was assumed that \$500,000 would be budgeted annually for years 2029 and 2030.

Once the required capital improvement projects and anticipated equipment purchases were determined a cost associated with each project or purchase was estimated as indicated in Table 7.

TABLE 7 CITY OF NIXA, MISSOURI SEWER RATE STUDY ANNUAL CAPITAL IMPROVEMENT SCHEDULE FOR WASTEWATER FACILITIES	
Year	Capital Improvement Expenses
2024	\$ 350,000.00
2025	\$ 3,124,657.00
2026	\$ 1,391,250.00
2027	\$ 413,438.00
2028	\$ 578,800.00
2029	\$ 500,000.00
2030	\$ 500,000.00

Total Capital Improvement Expenses \$ 6,858,145.00

As mentioned in Section III of this report, a more detailed presentation of proposed capital improvement projects and equipment purchases for the wastewater facilities can be found in Table 2.

Table 2 identifies the particular project, the year in which it will be implemented, its general location, a brief description of the project or equipment purchase, justification for the expenditure and the estimated cost associated with the project or equipment purchase. The proposed capital improvement projects and equipment purchases will occur each year beginning in 2025 and ending in 2030.

4. Transfers from Unrestricted Wastewater Fund to Restricted Funds Earmarked for future WWTP Upgrades

Beginning in 2025 the City will transfer existing unrestricted wastewater funds to a restricted fund designated for future upgrades to the City’s existing wastewater treatment plant.

Currently the City has an unrestricted wastewater fund balance of approximately \$3,287,787. In discussions with City staff it was decided to move \$700,000 annually in unrestricted funds to restricted funds to be designated for future upgrades to the City’s wastewater treatment plant in years 2025 through 2030. These proposed transfers are presented in Table 8.

TABLE 8 CITY OF NIXA, MISSOURI SEWER RATE STUDY	
UNRESTRICTED WW FUND TRANSFERS FOR WASTEWATER FACILITIES UPGRADES	
Year	Unrestricted Funds To Restricted Funds
2024	\$ 300,000.00
2025	\$ 700,000.00
2026	\$ 700,000.00
2027	\$ 700,000.00
2028	\$ 700,000.00
2029	\$ 700,000.00
2030	\$ 700,000.00

Total Fund Transfer Expenses \$ 4,500,000.00

5. Annual Costs Due to Existing Collection System Rehabilitation

Starting in 2009 the City instituted a gravity sewer rehabilitation program aimed at reducing excessive inflow/infiltration from reaching the wastewater treatment plant.

In discussions with City staff, it was felt that, due to the positive results that have been seen since the start of the sewer rehabilitation program, the City should continue to provide funds for an annual program of replacing or relining existing collection lines within the older portions of the City. These lines have historically been problem areas due to their age, condition and the fact that additional wastewater loading has been placed on these lines due to new development in the northern portion of the City. In order to provide funds for correcting these problem areas it was decided to allow a capital cost of \$300,000 in each of the next six years for these improvements as presented in Table 9.

TABLE 9 CITY OF NIXA, MISSOURI SEWER RATE STUDY	
ANNUAL SEWERLINE REHABILITATION SCHEDULE FOR WASTEWATER FACILITIES	
Year	Rehab of Existing Sewerlines
2024	\$ 300,000.00
2025	\$ 300,000.00
2026	\$ 300,000.00
2027	\$ 300,000.00
2028	\$ 300,000.00
2029	\$ 300,000.00
2030	\$ 300,000.00

Total Rehabilitation Improvement Expenses \$ 2,100,000.00

6. Total Combined Annual Expenses

In order to determine the total annual operating expenses, the existing routine operation and maintenance costs at the wastewater treatment plant were determined then to this amount was added the existing debt repayment schedules for the wastewater system, the proposed capital improvements for the system previously presented in Table 2, the annual costs due to the proposed collection system rehabilitation program and the annual transfer of unrestricted wastewater funds to a restricted fund for future treatment plant upgrades. As noted previously these total combined expenses are presented in Table 3. The table is based both on historical data and the assumption that routine operation and maintenance costs for the wastewater system would grow at a rate of six percent per year.

B. Determination of Annual Operating Revenues

1. Revenue Generated From the Sale of Wastewater

In order to estimate the amount of current and future operating revenue generated by the City’s wastewater users under the proposed rate structure, it was first necessary to determine the number of current wastewater users and wastewater usage in 2024 then project that number through the year 2030 to determine the anticipated number of future wastewater users and usage.

While it is difficult to predict future growth, since 2020 the annual growth rate for wastewater users has increased at an average rate of approximately 2.50% annually as indicated in Exhibit I. Likewise, Exhibit II indicates that the average population increase for the last 4 years has been approximately 2.50% annually. This annual increase is also reflected in the 2.50% annual increase in wastewater usage presented in Exhibit III.

For purposes of this report, it was assumed that population growth and wastewater users would continue to increase at a rate of 2.50% annually for the next six years.

Should actual population growth fall below the anticipated 2.50% annual growth rate presented in this report additional rate increases may be required. Table 10 indicates the current and anticipated population, number of wastewater users and anticipated billable wastewater usage.

TABLE 10 CITY OF NIXA, MISSOURI SEWER RATE STUDY ANTICIPATED POPULATION, USERS AND WASTEWATER USAGE			
Year	Population	# of Users	Wastewater Usage (gpd)
2024	26,058	9,460	1,822,563
2025	26,709	9,697	1,869,295
2026	27,377	9,939	1,917,226
2027	28,062	10,187	1,966,386
2028	28,763	10,442	2,016,806
2029	29,482	10,703	2,068,519
2030	30,219	10,971	2,121,558

2. Revenue Generated From Sewer Impact, Permit & Hookup Fees

The City of Nixa imposes a sewer impact fee as well as other related fees to help offset the costs of providing public wastewater collection and treatment facilities. These fees are entered into the wastewater fund as revenue and were accounted for as such in this report as presented in Table 11. It was assumed that these impact revenues would remain consistent and miscellaneous revenue would increase in the future at the rate of population growth.

**TABLE 11
CITY OF NIXA, MISSOURI
SEWER RATE STUDY

REVENUE PROJECTION FROM
SEWER IMPACT FEES, PERMIT FEES AND HOOKUP FEES**

Year	Total Users	Revenue from Hookups, Misc.	Revenue from Sewer Impact	Total Revenue Generated
2024	9,460	\$ 11,325.40	\$ 350,000.00	\$ 361,325.40
2025	9,697	\$ 11,615.79	\$ 350,000.00	\$ 361,615.79
2026	9,939	\$ 11,906.18	\$ 350,000.00	\$ 361,906.18
2027	10,187	\$ 12,203.84	\$ 350,000.00	\$ 361,203.84
2028	10,442	\$ 12,508.94	\$ 350,000.00	\$ 362,508.94
2029	10,703	\$ 12,281.66	\$ 350,000.00	\$ 362,281.66
2030	10,971	\$ 13,142.20	\$ 350,000.00	\$ 363,142.20

3. Total Combined Annual Revenues

In order to determine the total annual revenues, the existing revenue produced from the sale of wastewater, hookup fees, permit fees and sewer impact fees were determined. As noted previously these total combined annual revenues are indicated in Table 4.

Note that Table 4 is based both on historical data and the assumption that revenues for the wastewater system would grow at a rate of 2.50% per year. It also assumes that the proposed user charge rate increase is implemented starting in 2025.

C. Total Combined Revenue vs Total Combined Expense

Table 12 compares the anticipated total combined operating expenses with the total combined operating revenues. It can be seen that even assuming the wastewater rate structure increase becomes effective in the year 2025 the revenue versus expense fund balance remains in the negative until year 2027. To avoid this shortfall the rate structure would need to be increased in excess of what is proposed. However, in discussions with City staff it was noted that it would be more agreeable to wastewater customers to keep the proposed rate increase as low as possible while allowing the wastewater fund to drop below its current balance. It was further agreed that it would be prudent to maintain a minimum balance of approximately \$700,000 in the unrestricted wastewater fund. Assuming that no significant capital improvement projects or large equipment purchases are added to the proposed capital improvement plan, the proposed rate increase will insure that the desired minimum balance will be maintained at all times.

TABLE 12 CITY OF NIXA, MISSOURI SEWER RATE STUDY					
TOTAL COMBINED REVENUE VS TOTAL OPERATING COSTS IF RATES ARE INCREASED					
Year	Total Combined Annual Revenue Generated By All Users	Total Annual Operating Costs Less Transfer	Annual WW Fund Transfer	Annual Surplus/ Deficit	Assumed Current WW Fund Balance
2023					\$23,392,420.00
2024	\$3,875,684.90	\$3,403,533.66	\$300,000.00	\$172,151.24	\$23,564,571.24
2025	\$5,149,747.49	\$7,431,880.49	\$700,000.00	(\$2,982,133.00)	\$20,582,438.24
2026	\$5,985,342.88	\$6,000,561.54	\$700,000.00	(\$983,569.30)	\$19,867,219.58
2027	\$6,492,972.32	\$5,209,062.87	\$700,000.00	\$308,850.04	\$20,451,129.02
2028	\$7,022,461.15	\$5,710,817.01	\$700,000.00	\$329,708.25	\$21,062,773.16
2029	\$7,574,585.06	\$5,844,392.67	\$700,000.00	\$741,208.10	\$22,092,965.55
2030	\$8,150,144.87	\$6,143,710.87	\$700,000.00	\$1,010,225.11	\$23,399,399.56

EXHIBIT I
HISTORICAL CHANGE IN NUMBER
OF WASTEWATER USERS

**EXHIBIT I
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**HISTORICAL CHANGE IN
THE NUMBER OF TOTAL WASTEWATER USERS**

Year	Total Number of Wastewater Users	% Change
2019	8508	-
2020	8629	1.42
2021	8753	1.44
2022	8878	1.43
2023	9169	3.28
2024	9460	3.28

Average Annual % Increase 2.17

Exhibit I is based on historical wastewater users.

Recent changes in annual increases from 2023 through 2024 exceed the average annual increase of 2.17% indicated in Exhibit I however during the years of 2019 through 2022 the annual increases fell below this average annual increase. These increases are dependent on a number of factors, not the least of which is the general economic environment. Recent annual increases suggest that an increase closer to 2.17% could occur. However, if the number of wastewater users are predicted to be larger than what actually occurs it will give a false impression of the amount of operating revenue being received by the city.

EXHIBIT II
HISTORICAL CHANGE IN POPULATION

**EXHIBIT II
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

**HISTORICAL CHANGE IN
POPULATION**

Year	Total Population	% Change
2019	22,603	-
2020	23,435	3.68
2021	24,137	3.00
2022	24,748	2.53
2023	25,405	2.65
2024	26,058	2.57

Average Annual % Increase 2.89%

Population trends are difficult to predict. Note that between 2019 and 2021 the average annual population increase was approximately 3.34% and occurred during a period of growth within the City. However, between 2022 and 2024 this annual population increase had dropped to 2.58%. Over the past nine years the population has increased at an average annual rate of 2.89%. Because recent historical data on the population suggests an annual increase of near 2.50% and annual wastewater flow volumes appear to follow suit an annual population increase rate of 2.50% was utilized in this report.

Should actual population growth fall either above or below the anticipated 2.50% annual growth rate presented in this report additional rate changes may be required.

EXHIBIT III
HISTORICAL WASTEWATER FLOWS

**EXHIBIT III
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

HISTORICAL WASTEWATER FLOWS

Year	Historical Wastewater Flows	% Change
2019	1,581,475	-
2020	1,583,107	2.31
2021	1,599,576	1.04
2022	1,682,592	5.19
2023	1,752,578	4.16
2024	1,822,563	3.99

Average Annual % Increase 3.34

Note that the years indicate a continual increase in wastewater flows. Because historical data on the number of wastewater users suggest an annual increase of approximately 2.50% and annual wastewater flow volumes appear to follow a similar, if not slightly higher pattern, it was felt that an annual population increase rate of 2.50% was justified in this report.

EXHIBIT IV
HISTORICAL ROUTINE OPERATION AND MAINTENANCE COSTS

**EXHIBIT IV
CITY OF NIXA, MISSOURI
SEWER RATE STUDY**

HISTORICAL OPERATION AND MAINTENANCE COSTS

Year	Selected O&M Expenses	% Change
2019	\$2,556,418.00	-
2020	\$2,776,519.00	8.61
2021	\$2,467,073.00	-12.54
2022	\$2,776,927.00	12.56
2023	\$3,516,792.00	6.64
2024	\$3,703,533.66	5.31

Average Annual % Increase 6.85*

***(Years 2021 and 2022 removed)**

**Average Annual % Increase
(Incorporating Years 2021 and 2022) 4.12**

In determining the typical annual increase in operation and maintenance costs, years 2021 and 2022 did not appear to be typical of the trend and were removed from consideration.

Because there are many variables making up the costs associated with annual operation and maintenance it was difficult to arrive at a reasonable anticipated annual increase. If a lower annual increase is utilized and the annual operation and maintenance expenses actually exceed that anticipated lower increase, funds in the wastewater fund will be depleted more rapidly than anticipated. To avoid this possibility, an annual operation and maintenance cost increase of 6.0% was utilized in this report.