

Exhibit No.:
Issues: Eureka Acquisition
Witness: Kelly A. Simpson
Exhibit Type: Direct
Sponsoring Party: Missouri-American Water Company
Case No.: WA-2021-0376
Date: November 05, 2021

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WA-2021-0376

DIRECT TESTIMONY

OF

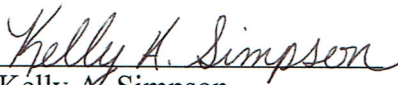
KELLY A. SIMPSON

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

AFFIDAVIT

I, Kelly A. Simpson, under penalty of perjury, and pursuant to Section 509.030, RSMo, state that I am Owner for Flinn Engineering, LLC, that the accompanying testimony has been prepared by me or under my direction and supervision; that if inquiries were made as to the facts in said testimony, I would respond as therein set forth; and that the aforesaid testimony is true and correct to the best of my knowledge and belief.


Kelly A. Simpson

November 5, 2021
Dated

**DIRECT TESTIMONY
KELLY A. SIMPSON
MISSOURI AMERICAN WATER COMPANY
CASE NO.: WA-2021-0376**

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DIRECT TESTIMONY

KELLY A. SIMPSON

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Q. Please state your name and business address.

A. Kelly A. Simpson. My business address is 11216 Neumann Lane, Highland, Illinois 62249.

Q. Are you associated with a business?

A. Yes. I am the owner of Flinn Engineering, LLC.

Q. Are you a professional engineer?

A. Yes. I am a registered professional engineer in the states of Missouri (since 2007) and Illinois (since 1998).

Q. Please summarize your educational background and business experience.

A. I graduated from Southern Illinois University Edwardsville in 1993 with a Bachelor of Science in Civil Engineering. I have over 28 years of experience in the planning, design, and construction administration of water and wastewater infrastructure. I worked for a St. Louis based engineering consulting firm from 1993 to 1995, as a staff engineer, where I supported project managers on the design of sewer extensions and other civil engineering projects. From 1995 to 2006, I worked for American Water Company in various roles including Engineer, Operations Engineer, and Engineering Manager. My primary focus in these roles included the completion of, or managing the completion of, water and wastewater infrastructure improvements, including planning, scheduling, estimating, designing, permitting, bidding, and installing. As Engineering Manager, I was responsible for planning the capital improvements for water and wastewater infrastructure in Missouri, Illinois, Iowa, Michigan, Indiana, and Ohio. From 2006 to 2015, I worked for two St.

1 Louis engineering consulting firms where my focus included planning, design, and
2 construction administration of water and wastewater infrastructure for various clients
3 including American Water, cities, and water districts. In 2015, I started Flinn Engineering,
4 LLC, a civil engineering consulting firm, as the owner, which is my current position.

5 **Q. What are your current employment responsibilities?**

6 A. I am currently responsible for the day-to-day activities of operating the business and
7 completing engineering projects for various clients including American Water, other
8 regulated water and wastewater providers, cities, appraisers, and other engineering
9 consulting firms. Engineering projects include infrastructure improvements to water and
10 wastewater treatment plants, water and wastewater pumping stations, water storage tanks,
11 chemical storage and feed improvements, water distribution systems, and wastewater
12 collection systems. Engineering projects also include studies of water and wastewater
13 systems to recommend long-term infrastructure improvements, as well as Engineering
14 Reports to support the acquisition of water and wastewater systems. I have completed
15 Engineering Reports to support acquisitions in Missouri, Illinois, Kentucky, Mississippi,
16 and Florida.

17 **II. ENGINEERING REPORT**

18 **Q. Did you prepare an Engineering Report concerning the City of Eureka (“Eureka” or**
19 **“City”) water and wastewater systems?**

20 A. Yes. I was asked by Joseph Batis of Edward J. Batis & Associates, Inc. to provide a report
21 to the appraisers of the Eureka water and wastewater systems.

22 **Q. What were you asked to provide in that report?**

23 A. I was asked to provide a high-level review of the condition of the systems, estimate the

1 2019 installation cost, and estimate the depreciated book value of the assets, based on the
2 2019 estimated installation cost and the estimated age of the assets.

3 **Q. What City of Eureka records were you able to use for this purpose?**

4 A. As stated on the first page of the report, the City provided limited information on the assets.
5 The original installation costs were not recorded by the City. The above-ground assets are
6 listed with 2019-2020 replacement costs in the City's insurance list of assets. The City
7 provided the year of installation of the above ground assets. A report titled "Water
8 Distribution System Evaluation" dated December 28, 2018, by Bartlett & West was used
9 to gather information such as depth of wells, capacity of wells, capacity of storage tanks,
10 and pump capacity at booster stations. The buried assets (water distribution and sewer
11 collection systems) are not listed in the insurance list of assets. The 2019 estimated cost of
12 installation for the buried assets was calculated using a combination of an engineering
13 opinion of cost to install the assets based on knowledge of other systems of similar size, as
14 well as correspondence from the city, vendors, and contractors. The year of installation for
15 the buried assets was estimated based on the installation of the above ground assets. The
16 2019 estimated installation cost was depreciated based on the age of each asset.

17 **Q. Were there any other limitations to the report that were identified?**

18 A. Yes. I also noted on the first page of the report that "[t]he high-level review of the condition
19 of the system is based on the data provided by the City and photos that were taken by others
20 during a site visit. Flinn Engineering did not visit the site."

21 **Q. Did the estimated values you provided attempt to address the value of any real estate
22 or easements associated with these assets?**

23 A. No.

1 **Q. When did you complete that report?**

2 A. The final report was dated March 16, 2020. A copy of that report is attached hereto as
3 **Schedule KES-1.**

4 **Q. Did you sign, seal and date that report as a professional engineer?**

5 A. I did not.

6 **Q. Why not?**

7 A. I understood that my report would be used by the persons conducting an appraisal of the
8 Eureka systems in accordance with Section 393.320, RSMo. To my knowledge, that statute
9 does not require a signed, sealed engineering report, or any engineering report at all.

10 **Q. When would you sign, seal, and date engineering work you have performed?**

11 A. I sign, seal, and date design documents that are used in construction of water and
12 wastewater infrastructure. In a few cases, I have signed, sealed, and dated some reports
13 when specifically requested by my client. Reports such as the one provided in this instance
14 to the appraisers are not typically signed, sealed, and dated.

15 **Q. Does the fact that Schedule KES-1 is not signed, sealed, and dated have any
16 significance in your mind?**

17 A. No. The report is clearly identified as my work. Moreover, the lack of a professional
18 engineer's (PE) seal does not negate the fact that this report was prepared by a licensed PE
19 in good standing in the State of Missouri.

20 **Q. Was the report dated March 16, 2020, the only version of your report that was
21 produced?**

22 A. No. I submitted a report in January 2020 and updated it as the "final" report in March

1 2020.

2 **Q. What changes were made?**

3 A. The significant change from the January report to the March report was the assumed age
4 of buried infrastructure. While completing the January report, I was not aware that the GIS
5 data was available and had no other alternative except to make a pure assumption about
6 the age of the assets. The January report was based on an assumption that 70% of buried
7 assets were installed when the system was placed in service (water 1959 and sewer 1950),
8 and that 5% was installed with the installation of each well (water distribution) and lift
9 station (sewer).

10 **Q. What was different in the March report?**

11 A. I was made aware of the existence of certain GIS data that was relevant to this question.
12 Using the GIS data is a significantly more accurate and appropriate method of estimating
13 the age of asset. As described in the March report on page 3, *“We assumed the distribution
14 system was expanded with the addition of each well. The quantity of distribution assets
15 was prorated based on the approximate amount of new buildings in the period between
16 well installations. The St. Louis County GIS parcel data includes the year each building
17 was built. The data was queried for buildings within the municipality of Eureka. The data
18 included 3,925 parcels, which is consistent with the number of customers (3,947). The
19 estimated percent of distribution assets per period is shown in **Table 4.**”* As described in
20 the March report on page 5, *“We assumed the sewer system was expanded with the
21 installation of lift stations. The percentage of assets per period were assumed to be similar
22 to the calculation described above for the water distribution assets.”*

23 **Q. In your experience, is it common practice to base observations for this type of report**

1 **on photographs?**

2 A. For this type of report, yes. Further, I would also clarify that these are observations
3 associated with the above-ground assets. Many of these system assets are found below
4 ground and an engineer would never be able to observe below ground assets to any
5 significant extent.

6 **Q. In providing values for the assets, did you take into account how Missouri-American**
7 **Water Company (MAWC), or any other purchaser, might make use of those assets in**
8 **the future?**

9 A. I did not. My task is to provide value for assets as they exist at the time they are assessed.

10 **Q. Could you have taken MAWC’s proposed use into account at the time you completed**
11 **your report?**

12 A. No. My report is dated March 16, 2020. It is my understanding that the public vote
13 concerning the possible sale of these assets did not take place until August 4, 2020, and
14 that Eureka did not enter into a purchase agreement with MAWC until November of 2020.
15 It is my further understanding that MAWC’s proposed use is an option only available to
16 MAWC and not to other potential purchasers of the system.

17 **Q. Does this conclude your direct testimony?**

18 A. Yes, it does.



Flinn Engineering, LLC
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Highland, Illinois 62249
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March 16, 2020

Mr. Joseph E. Batis, MAI, R/W-AC
Edward J. Batis & Associates
313 N. Chicago Street
Joliet, IL 60432

Re: Engineering Report
Water and Wastewater System Appraisal
Eureka, Missouri

Dear Mr. Batis:

Flinn Engineering, LLC is pleased to present the following information regarding the water and wastewater systems owned by the City of Eureka, Missouri (City) as part of the appraisal process you are completing for Missouri American Water. The purpose of this Engineering Report is to provide a high-level review of the condition of the system, estimate the 2019 installation cost, and estimate the depreciated book value of the assets. The City provided limited information on the assets. The original installation costs were not recorded by the City. The above ground assets are listed with 2019-2020 replacement costs in the City's insurance list of assets (**Appendix A**). The City provided the year of installation for the above ground assets. The buried assets (water distribution and sewer collection systems) are not listed in the insurance list of assets. The 2019 estimated cost of installation for the buried assets was calculated using a combination of an engineering opinion of cost to install the assets based on knowledge of other systems of similar size, as well as correspondence from the City, vendors, and contractors. The year of installation for the buried assets was estimated based on the installation of the above ground assets, described in more detail below. The 2019 estimated installation cost was depreciated based on the age of each asset.

The estimated values listed in this report do not include the value of land or easements.

The high-level review of the condition of the system is based on the data provided by the City and photos that were taken by others during a site visit. Flinn Engineering did not visit the site.

The water system include six (6) wells, eight (8) booster pump stations, seven (7) storage tanks, and the water distribution system. The wastewater system includes a treatment plant, ten (10) lift stations, and the sewer collection system.

Wells

The six (6) wells are listed in the insurance asset list with replacement costs. The line items for each well site typically include a separate line for the building, well casing, pump, generator, electrical, disinfection equipment, and softening equipment. The replacement values listed on the insurance asset list were used for the 2019 installation cost. The values were then depreciated based on the age of the asset. **Table 1** summarizes the well information and the

installation date of each well. The installation dates were provided by the City. The capacity and depth are based the “Water Distribution system Evaluation” dated December 28, 2018 by Bartlett & West. Water softening equipment was added at each well site in 2012. The wells appear to be well-maintained and in good condition. Although some assets associated with the wells are fully depreciated (typically the well pump and the generator), they are still in operation and could continue to stay in operation well beyond the depreciation period.

Table 1-Well Installation Data

| Well No. | Date of Installation | Pump Capacity (gpm) | Depth (ft) |
|----------|----------------------|---------------------|------------|
| 1 | 1977 | 830 | 500 |
| 5 | 1990 | 860 | 645 |
| 6 | 1996 | 460 | 1235 |
| 8 | 2003 | 680 | 865 |
| 9 | 2017 | 800 | 635 |
| 10 | 2006 | 480 | 695 |

Storage Tanks

The water system includes seven (7) storage tanks that are listed in the insurance asset list with replacement costs. Six (6) of the tanks have a capacity of 500,000 gallons and one (1) has a capacity of 250,000 gallons. The replacement values listed on the insurance asset list were used for the 2019 installation cost and depreciated based on the age of the asset. **Table 2** summarizes the storage tank information and the installation date of each. The installation dates are from various sources provided by the City. The capacity is based the “Water Distribution system Evaluation” dated December 28, 2018 by Bartlett & West. The storage tanks are welded steel tanks and the exterior paint appears to good condition, with the exception of some mildew. The two (2) Viola tanks are fully depreciated, but are still in operation and could continue to stay in operation well beyond the depreciation period.

Table 2 – Storage Tank Data

| Tank Name | Date of Installation | Type | Volume (gallons) |
|-------------------|----------------------|----------------|------------------|
| Arbors | 2017 | Ground Storage | 500,000 |
| Forby Road | 2005 | Ground Storage | 500,000 |
| Legends | 1996 | Ground Storage | 500,000 |
| Niehoff/Augustine | 2007 | Standpipe | 500,000 |
| Brock/Palisades | 2003 | Ground Storage | 500,000 |
| Small Viola | 1966 | Ground Storage | 250,000 |
| Large Viola | 1977 | Ground Storage | 500,000 |

Booster Pump Stations

The water system includes eight (8) booster pump stations that are listed in the insurance asset list with replacement costs. The line items for each booster pump station site typically include a separate line for the building, pump, generator, and electrical. The replacement values listed on the insurance asset list were used for the 2019 installation cost and depreciated based on the

age of the asset. **Table 3** summarizes the booster pump station information and the installation date of each. The installation dates are from various sources provided by the City. The number of pumps and pump capacity is based the “Water Distribution system Evaluation” dated December 28, 2018 by Bartlett & West. Although some assets associated with the booster pump stations are fully depreciated (typically the pump and the generator), they are still in operation and could continue to stay in operation well beyond the depreciation period.

Table 3 – Booster Pump Station Data

| Booster Station Name | Date of Installation | Number of Pumps | Design Flow (gpm) |
|----------------------|----------------------|---------------------|-------------------|
| Arbors | 2017 | 4 | 490 |
| Forby Road | 2005 | 2 | 80 |
| Legends | 1996 | 2 (and Jockey Pump) | 1,000 |
| Niehoff/Augustine | 2007 | 3 | |
| Brock/Palisades | 2003 | 2 (and Jockey Pump) | 75 |
| Small Viola | 1966 | 2 | 600 |
| Large Viola | 1977 | 2 | |
| Emerald Forest | 1996 | 2 | 96 |

Water Distribution System

The water distribution system includes approximately 58.8 miles of water main ranging in size from 2-inch to 12-inch, 642 fire hydrants, associated valves and fittings, and 3,947 customer service connections and meters. The City provided a list of water main by type and size. The water main material includes iron, asbestos cement, and PVC. Based on the “Census of Missouri Public Water Systems 2019” (excerpt in **Appendix B**) from the Missouri Department of Natural Resources (MDNR), the City began operating the water system in 1959. We assumed the distribution system was expanded with the addition of each well. The quantity of distribution assets was prorated based on the approximate amount of new buildings in the period between well installations. The St. Louis County GIS parcel data includes the year each building was built. The data was queried for buildings within the municipality of Eureka. The data included 3,925 parcels, which is consistent with the number of customers (3,947). The estimated percent of distribution assets per period is shown in **Table 4**. **Table 4** summarizes the length of main by size and year installed, as well as the number of fire hydrants, services, and meters installed each year.

Table 4 – Distribution System Assets by Year

| | 1959 | 1977 | 1990 | 1996 | 2003 | 2006 | 2017 | Total |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|----------------------------|
| 2-inch Water Main | 634 | 1,267 | 634 | 634 | 1,901 | 634 | 634 | 6,336 |
| 4-inch Water Main | 634 | 1,267 | 634 | 634 | 1,901 | 634 | 634 | 6,336 |
| 6-inch Water Main | 11,088 | 22,176 | 11,088 | 11,088 | 33,264 | 11,088 | 11,088 | 110,880 |
| 8-inch Water Main | 12,137 | 24,274 | 12,137 | 12,137 | 36,410 | 12,137 | 12,137 | 121,368 |
| 10-inch Water Main | 5,914 | 11,827 | 5,914 | 5,914 | 17,741 | 5,914 | 5,914 | 59,136 |
| 12-inch Water Main | 655 | 1,310 | 655 | 655 | 1,965 | 655 | 655 | 6,549 |
| Total | 31,061 | 62,121 | 31,061 | 31,061 | 93,182 | 31,061 | 31,061 | 310,605 feet 58.8 miles |
| % Main By Year | 10% | 20% | 10% | 10% | 30% | 10% | 10% | 100% |
| # Fire Hydrants By Year | 64 | 129 | 64 | 64 | 193 | 64 | 64 | 642 |
| # Services/Meters By Year | 395 | 789 | 395 | 395 | 1183 | 395 | 395 | 3947 |

The cost to install water main, fire hydrants, and services and meters in 2019 is listed in **Table 5**. The estimate assumes the water main is about 3 feet deep and includes design, excavation, material, installation, required fittings and valves, backfill, and restoration. **Table 5** summarizes the estimated 2019 cost for the distribution system. The water distribution system was not observed for condition. Based on the condition of the above ground assets, it is assumed that the water distribution system is also well-maintained and is assumed to be in good condition.

Table 5 – 2019 Estimated Installation Cost – Distribution System

| Asset Description | Quantity | Unit | Estimated Unit Cost 2019 | 2019 Estimated Installation Cost |
|---------------------|----------|------|--------------------------|----------------------------------|
| 2-inch Water Main | 6,336 | feet | \$ 30.00 | \$ 190,080 |
| 4-inch Wate Main | 6,336 | feet | \$ 45.00 | \$ 285,120 |
| 6-inch Water Main | 110,880 | feet | \$ 50.00 | \$ 5,544,000 |
| 8-inch Water Main | 121,368 | feet | \$ 55.00 | \$ 6,675,240 |
| 10-inch Water Main | 59,136 | feet | \$ 65.00 | \$ 3,843,840 |
| 12-inch Water Main | 6,549 | feet | \$ 75.00 | \$ 491,175 |
| Fire Hydrants | 642 | each | \$3,500.00 | \$ 2,247,000 |
| Services and Meters | 3,947 | each | \$1,500.00 | \$ 5,920,500 |
| Total | | | | \$ 25,196,955 |

Wastewater Treatment Plant

The wastewater treatment plant (WWTP) is a three-cell aerated lagoon plant with a design flow of 2.8 million gallons per day, according to the MDNR Operating Permit (excerpt in **Appendix C**). The WWTP is listed in the insurance asset list with replacement costs. The line items for the WWTP include a separate line for buildings, pumps, generator, electrical, and treatment equipment. The replacement values listed on the insurance asset list were used for the 2019 installation cost and depreciated based on the age of the asset. The WWTP was constructed in 2005, according to City staff. In addition to the three-cell lagoon, the WWTP includes an influent lift station, bar screen, fine-bubble air diffusers, Aquamats®, and recirculation pumps. The WWTP appears to be well-maintained and in good condition.

Sewer Lift Stations

The wastewater system includes ten (10) sewer lift stations. Nine (9) of the lift stations are listed in the insurance asset list with replacement costs. The Arbors Lift Station was installed in 2018 at a cost of \$350,000, according to City staff. The lift stations are shown as one line item for each lift station on the insurance asset list. The replacement values listed on the insurance asset list and the reported cost of the Arbors Lift Station were used for the 2019 installation cost and depreciated based on the age of the asset. **Table 6** summarizes the installation date of each lift station. The installation dates were provided by the City. Other than the Arbors Lift Station, all lift stations are fully depreciated. Most of the assets associated with the lift stations are underground and could not be observed. Since they are still in operation and could continue to stay in operation well beyond the depreciation period, it is assumed they are in good condition.

Table 6 – Lift Station Data

| Lift Station Name | Date of Installation |
|-----------------------|----------------------|
| Cahoon | 1950 |
| Kircher (Stonebridge) | 1950 |
| Hilltop | 1976 |
| Highway 109 | 1986 |
| KOA-South Fox Creek | 1989 |
| North Street - E | 1995 |
| North Street - W | 1995 |
| Truitt (Raineri) | 2000 |
| Enderbush | 2004 |
| The Arbors | 2018 |

Sewer Collection System

The sewer collection system includes approximately 62.5 miles of sewer main ranging in size from 4-inch to 48-inch, 1,452 manholes, and 3,888 customer service laterals. The City provided a list of sewer by type and size. The sewer main material includes PVC, clay, and steel. The oldest sewer lift station was installed in 1950. We assumed the sewer system was expanded with the installation of lift stations. The percentage of assets per period were assumed to be similar to the calculation described above for the water distribution assets. **Table 7** summarizes the length of sewer main by size and year installed, as well as the number of manholes and service laterals.

Table 7 – Sewer Collection System Assets by Year

| | 1950 | 1976 | 1987 | 1995 | 2000 | 2005 | 2018 | Total |
|--------------------|--------|--------|--------|--------|--------|--------|--------|----------------------------|
| 4-inch Sewer | 379 | 757 | 379 | 379 | 1,136 | 379 | 379 | 3,786 |
| 8-inch Sewer | 28,661 | 57,322 | 28,661 | 28,661 | 85,983 | 28,661 | 28,661 | 286,609 |
| 10-inch Sewer | 969 | 1,937 | 969 | 969 | 2,906 | 969 | 969 | 9,685 |
| 12-inch Sewer | 802 | 1,603 | 802 | 802 | 2,405 | 802 | 802 | 8,017 |
| 15-inch Sewer | 339 | 678 | 339 | 339 | 1,017 | 339 | 339 | 3,389 |
| 18-inch Sewer | 395 | 789 | 395 | 395 | 1,184 | 395 | 395 | 3,947 |
| 24-inch Sewer | 90 | 179 | 90 | 90 | 269 | 90 | 90 | 897 |
| 36-inch Sewer | 1,324 | 2,648 | 1,324 | 1,324 | 3,972 | 1,324 | 1,324 | 13,239 |
| 48-inch Sewer | 47 | 94 | 47 | 47 | 140 | 47 | 47 | 468 |
| Total | 33,004 | 66,007 | 33,004 | 33,004 | 99,011 | 33,004 | 33,004 | 330,037 feet 62.5 miles |
| % Sewer By Year | 10% | 20% | 10% | 10% | 30% | 10% | 10% | 1 |
| # Manholes By Year | 145 | 291 | 145 | 145 | 436 | 145 | 145 | 1452 |
| # Laterals By Year | 389 | 777 | 389 | 389 | 1166 | 389 | 389 | 3888 |

The cost to install sewer main, manholes, and service laterals in 2019 is listed in **Table 8**. The estimate assumes the sewer is about 6 feet deep and includes design, excavation, material, installation, backfill, and restoration. **Table 8** summarizes the estimated 2019 cost for the sewer collection system. The sewer collection system was not observed for condition. Based on the condition of the above ground assets, it is assumed that the sewer collection system is also well-maintained and is assumed to be in good condition.

Table 8 – 2019 Estimated Installation Cost – Sewer Collection System

| Asset Description | Quantity | Unit | Estimated Unit Cost 2018 | 2018 Estimated Installation Cost |
|-------------------|----------|------|--------------------------|----------------------------------|
| 4-inch Sewer | 3,786 | feet | \$ 45.00 | \$ 170,370 |
| 8-inch Sewer | 286,609 | feet | \$ 55.00 | \$15,763,495 |
| 10-inch Sewer | 9,685 | feet | \$ 65.00 | \$ 629,525 |
| 12-inch Sewer | 8,017 | feet | \$ 75.00 | \$ 601,275 |
| 15-inch Sewer | 3,389 | feet | \$ 80.00 | \$ 271,120 |
| 18-inch Sewer | 3,947 | feet | \$ 90.00 | \$ 355,230 |
| 24-inch Sewer | 897 | feet | \$ 95.00 | \$ 85,215 |
| 36-inch Sewer | 13,239 | feet | \$ 100.00 | \$ 1,323,900 |
| 48-inch Sewer | 468 | feet | \$ 110.00 | \$ 51,480 |
| Manholes | 1452 | each | \$3,500.00 | \$ 5,082,000 |
| Service Laterals | 3888 | each | \$ 300.00 | \$ 1,166,400 |
| Total | | | | \$25,500,010 |

Estimated Book Value

Table 9 shows a summary of the estimated cost for installation in 2019 and the depreciated value based on the age of the assets. The depreciation calculation is included in **Appendix D**. The depreciation periods are based on depreciation periods used by the Missouri Public Service Commission (PSC) during recent rate cases. The depreciation schedules from six (6) recent rate cases are included in **Appendix E**. Three (3) are from water systems and three (3) are from wastewater systems. The depreciation periods used are summarized in **Table 10**.

Table 9 - Summary of Book Value

| | Estimated 2019 Installation Cost | Estimated Depreciated Book Value |
|--------------------------|----------------------------------|----------------------------------|
| Eureka Water System | \$ 35,646,122.00 | \$ 18,155,170.19 |
| Eureka Wastewater System | \$ 28,734,997.00 | \$ 13,293,844.11 |
| Total | \$ 64,381,119.00 | \$ 31,449,014.30 |

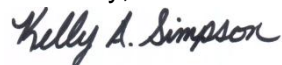
Table 10 – Depreciation Periods

| Asset | Depreciation Period (years) |
|--------------------------------------|-----------------------------|
| Buildings (Structures/Improvements) | 44 |
| Wells Casing/Hole | 55 |
| Well Pumps | 12 |
| Generators | 15 |
| Electrical (Structures/Improvements) | 44 |
| Disinfection/Softening Equipment | 35 |
| Booster Pumps | 7 |
| Tanks | 42 |
| Water Main | 50 |
| Fire Hydrants | 40 |
| Services and Meters | 35 |
| Wastewater Treatment Facilities | 22 |
| WW Pumps/Lift Stations | 10 |
| Sanitary Sewer, Manholes, Laterals | 50 |

Overall the water and wastewater systems appear to be in good condition and well-maintained. Although many of the assets are fully depreciated, they are still in operation and could continue to stay in operation well beyond the depreciation period.

Thank you for the opportunity to assist you on this project. Please let me know if you have any questions.

Sincerely,



Kelly A. Simpson, PE, LEED® AP
Owner

Enclosures:

- Appendix A – Insurance Asset List
- Appendix B – MDNR 2019 Census
- Appendix C – MDNR Operating Permit
- Appendix D – Depreciation Calculation
- Appendix E – MDNR Depreciation Schedules

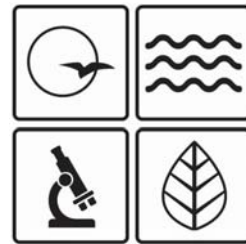
SAINT LOUIS AREA INSURANCE TRUST
POLICY YEAR 7/01/19-7/01/20
CITY OF EUREKA

| DESCRIPTION | LOCATION | BUILDING | | CONTENTS | |
|-------------------------------------|---|-------------------|-------------------|-------------------|-------------------|
| | | 2019-20 VALUES | 2019-20 VALUES | 2019-20 VALUES | 2019-20 VALUES |
| LIFT STATION & GENERATOR BLDG | HWY. 109 | \$ | 11,709 | \$ | 206,623 |
| LIFT STATION & GENERATOR BLDG | HILLTOP CENTER DRIVE | \$ | 5,854 | \$ | 160,707 |
| LIFT STATION & BUILDING | CAHOON DRIVE | \$ | 2,928 | \$ | 45,916 |
| WELL 5 BLDG | DREWEL PARK | \$ | 74,614 | \$ | - |
| PUMP | DREWEL PARK | \$ | 73,467 | \$ | - |
| CASING/HOLE | DREWEL PARK | \$ | 80,354 | \$ | - |
| GENERATOR | DREWEL PARK | \$ | 45,916 | \$ | - |
| ELECTRICAL | DREWEL PARK | \$ | 45,916 | \$ | - |
| DISINFECTION | DREWEL PARK | \$ | 44,768 | \$ | - |
| WATER SOFTENING EQUIPMENT | DREWEL PARK | \$ | 306,000 | \$ | - |
| S. FOX CREEK LIFT STATION/GEN BLDG. | 1850 W. OLD HWY. 66 | \$ | 179,142 | \$ | 44,150 |
| PAVILION | HILLTOP PARK | \$ | 36,182 | \$ | - |
| LIFT STATION | NORTH STREET (W) ** | \$ | 25,254 | \$ | - |
| LIFT STATION | NORTH STREET (E) ** | \$ | 16,071 | \$ | - |
| LIFT STATION | ENDERBUSH LANE ** | \$ | 34,437 | \$ | - |
| SEWAGE LIFT STATION | TRUITT DRIVE ** | \$ | 29,857 | \$ | - |
| LIFT STATION | KIRCHER PARK - WILLIAMS ROAD NEAR I-44 ** | \$ | 149,229 | \$ | - |
| TANK #1 | NIEHOFF DRIVE | \$ | 126,270 | \$ | - |
| BOOSTER BUILDING, PUMPS, ELECTRICAL | NIEHOFF DRIVE | \$ | 274,666 | \$ | - |
| PUMPS | NIEHOFF DRIVE | \$ | - | \$ | - |
| ELECTRICAL | NIEHOFF DRIVE | \$ | - | \$ | - |
| TANK .5MG #7 | NIEHOFF DRIVE | \$ | 477,939 | \$ | - |
| TANK #3 | BROCK ROAD | \$ | 376,200 | \$ | - |
| WELL HOUSE 4 | BROCK ROAD | \$ | - | \$ | - |
| ELECTRICAL | BROCK ROAD | \$ | - | \$ | - |
| PALISADES BOOSTER STA. BLDG | BROCK ROAD | \$ | 57,396 | \$ | - |
| PUMPS | BROCK ROAD | \$ | 68,874 | \$ | - |
| ELECTRICAL | BROCK ROAD | \$ | 80,354 | \$ | - |
| GENERATOR | BROCK ROAD | \$ | 68,874 | \$ | - |
| WELL 1 BLDG | HOWERTON LANE | \$ | 74,614 | \$ | - |
| PUMP | HOWERTON LANE | \$ | 73,467 | \$ | - |
| CASING/HOLE | HOWERTON LANE | \$ | 80,354 | \$ | - |
| GENERATOR | HOWERTON LANE | \$ | 45,916 | \$ | - |
| ELECTRICAL | HOWERTON LANE | \$ | 45,916 | \$ | - |
| DISINFECTION | HOWERTON LANE | \$ | 44,768 | \$ | - |
| WATER SOFTENING EQUIPMENT | HOWERTON LANE | \$ | 306,000 | \$ | - |
| WELL 8 BLDG | VIOLA LANE | \$ | 74,614 | \$ | - |
| WATER SOFTENING EQUIPMENT | VIOLA LANE | \$ | 306,000 | \$ | - |
| PUMP | VIOLA LANE | \$ | 73,467 | \$ | - |
| CASING/HOLE | VIOLA LANE | \$ | 80,354 | \$ | - |
| GENERATOR | VIOLA LANE | \$ | 103,312 | \$ | - |
| ELECTRICAL | VIOLA LANE | \$ | 45,916 | \$ | - |
| DISINFECTION | VIOLA LANE | \$ | 44,768 | \$ | - |
| HUNTERS BOOSTER BLDG | VIOLA LANE | \$ | 57,396 | \$ | - |
| PUMPS | VIOLA LANE | \$ | 51,656 | \$ | - |
| ELECTRICAL | VIOLA LANE | \$ | 68,874 | \$ | - |
| HILLTOP BOOSTER BLDG | VIOLA LANE | \$ | 57,396 | \$ | - |
| PUMPS | VIOLA LANE | \$ | 45,916 | \$ | - |
| ELECTRICAL | VIOLA LANE | \$ | 57,396 | \$ | - |
| TANK .5MG #4 | VIOLA LANE | \$ | 376,200 | \$ | - |
| TANK .2MG #2 | VIOLA LANE | \$ | 286,978 | \$ | - |
| TANK .5MG #6 | FORBY ROAD | \$ | 376,200 | \$ | - |
| BOOSTER STATION | FORBY ROAD | \$ | 110,376 | \$ | - |
| GENERATOR | FORBY ROAD | \$ | 44,150 | \$ | - |
| WELL 6 BLDG. #1 | LEGENDS - 503 VISTA HILLS COURT | \$ | 74,614 | \$ | - |
| PUMP | LEGENDS - 503 VISTA HILLS COURT | \$ | 73,467 | \$ | - |
| CASING/HOLE | LEGENDS - 503 VISTA HILLS COURT | \$ | 80,354 | \$ | - |

SAINT LOUIS AREA INSURANCE TRUST
POLICY YEAR 7/01/19-7/01/20
CITY OF EUREKA

| DESCRIPTION | LOCATION | <u>BUILDING</u> | <u>CONTENTS</u> |
|--|---|----------------------|-------------------|
| | | 2019-20 VALUES | 2019-20 VALUES |
| GENERATOR | LEGENDS - 503 VISTA HILLS COURT | \$ 103,312 | \$ - |
| ELECTRICAL | LEGENDS - 503 VISTA HILLS COURT | \$ 45,916 | \$ - |
| DISINFECTION | LEGENDS - 503 VISTA HILLS COURT | \$ 44,768 | \$ - |
| LEGENDS BOOSTER BLDG. | LEGENDS - 503 VISTA HILLS COURT | \$ 68,874 | \$ - |
| PUMPS | LEGENDS - 503 VISTA HILLS COURT | \$ 86,093 | \$ - |
| ELECTRICAL | LEGENDS - 503 VISTA HILLS COURT | \$ 68,874 | \$ - |
| TANK .5 MG #5 | LEGENDS - 503 VISTA HILLS COURT | \$ 376,200 | \$ - |
| WELL 6 BLDG. #2 | LEGENDS - 503 VISTA HILLS COURT | \$ 83,640 | \$ - |
| WATER SOFTENING EQUIPMENT | LEGENDS - 503 VISTA HILLS COURT | \$ 306,000 | \$ - |
| BOOSTER BUILDING | EMERALD FOREST-832 EMERALD OAKS CT | \$ 50,508 | \$ - |
| PUMPS | EMERALD FOREST-832 EMERALD OAKS CT | \$ 45,916 | \$ - |
| ELECTRICAL | EMERALD FOREST-832 EMERALD OAKS CT | \$ 34,437 | \$ - |
| GENERATOR | EMERALD FOREST-832 EMERALD OAKS CT | \$ 45,916 | \$ - |
| INFLUENT PUMP STATION | WTF - HWY. 109 & TRUITT DRIVE | \$ 109,052 | \$ - |
| PUMPS | WTF - HWY. 109 & TRUITT DRIVE | \$ 76,336 | \$ - |
| SCREENING BUILDING | WTF - HWY. 109 & TRUITT DRIVE | \$ 113,506 | \$ - |
| SCREEN/WASHER | WTF - HWY. 109 & TRUITT DRIVE | \$ 87,815 | \$ - |
| ULTRAVIOLET STRUCTURE | WTF - HWY. 109 & TRUITT DRIVE | \$ 212,363 | \$ - |
| ELECTRICAL | WTF - HWY. 109 & TRUITT DRIVE | \$ 153,246 | \$ - |
| EFFLUENT PUMP STATION | WTF - HWY. 109 & TRUITT DRIVE | \$ 109,052 | \$ - |
| PUMPS | WTF - HWY. 109 & TRUITT DRIVE | \$ 53,033 | \$ - |
| BLOWER BLDG. | WTF - HWY. 109 & TRUITT DRIVE | \$ 40,177 | \$ - |
| BLOWERS | WTF - HWY. 109 & TRUITT DRIVE | \$ 124,307 | \$ - |
| ELECTRICAL | WTF - HWY. 109 & TRUITT DRIVE | \$ 86,093 | \$ - |
| GENERATOR | WTF - HWY. 109 & TRUITT DRIVE | \$ 103,312 | \$ - |
| LABORATORY BUILDING | WTF - HWY. 109 & TRUITT DRIVE | \$ 107,904 | \$ 22,959 |
| AERATION/BAFFLES/AQUAMATS | WTF - HWY. 109 & TRUITT DRIVE | \$ 573,955 | \$ - |
| WELL 10 BLDG | 1414 W. MAIN STREET | \$ 97,517 | \$ - |
| PUMP | 1414 W. MAIN STREET | \$ 43,507 | \$ - |
| CASING/HOLE | 1414 W. MAIN STREET | \$ 59,903 | \$ - |
| GENERATOR | 1414 W. MAIN STREET | \$ 51,437 | \$ - |
| ELECTRICAL | 1414 W. MAIN STREET | \$ 54,652 | \$ - |
| DISINFECTION | 1414 W. MAIN STREET | \$ 39,650 | \$ - |
| WATER SOFTENING EQUIPMENT | 1414 W. MAIN STREET | \$ 306,000 | \$ - |
| WELL - Arbors of Rockwood | 755 BREWSTER ROAD | \$ 160,000 | \$ - |
| 500,000 GALLON WATER STORAGE TANK | 755 BREWSTER ROAD | \$ 606,000 | \$ - |
| BUILDING INCLUDING WATER SOFTENING EQUIPMENT, FLUORIDATION EQUIPMENT, CHLORINATION EQUIPMENT | 755 BREWSTER ROAD | \$ 2,308,000 | \$ - |
| | TOTALS | \$ 12,889,987 | \$ 480,356 |
| | 18-19 TOTAL BUILDING AND CONTENTS VALUES: | \$ 13,370,343 | |
| | 19-20 TOTAL BUILDING AND CONTENTS VALUES: | \$ 13,370,343 | |

CENSUS OF MISSOURI PUBLIC WATER SYSTEMS 2019



Missouri Department of Natural Resources
Division of Environmental Quality
Water Protection Program
Public Drinking Water Branch

City Water Systems

| Community Water System Name | | Year Began | Operator Level | Owner Code | Population Served | Service Connections | Pct Sur Water | Pct Grd Water | Pct GW Under Infl | Pct Pur Sur Water | Pct Pur Grd Water | Pct Pur GW Und Infl | Supply Capacity MGD | Avg Daily Consumption MGD | Finished Water Storage |
|-------------------------------------|-----------------|------------|----------------|------------|-------------------|---------------------|---------------|---------------|-------------------|-------------------|-------------------|---------------------|---------------------|---------------------------|------------------------|
| ELSBERRY PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO6010250 | LINCOLN | 1935 | C2 | L | 1,963 | 850 | 0 | 100 | 0 | 0 | 0 | 0 | 0.5040 | 0.1300 | 0.6400 |
| EMERALD BEACH VILLAGE OF PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO5010999 | BARRY | 1971 | 2 | L | 484 | 231 | 0 | 100 | 0 | 0 | 0 | 0 | 0.1440 | 0.0370 | 0.0720 |
| EMINENCE PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO4010253 | SHANNON | 1955 | 2 | L | 605 | 349 | 0 | 100 | 0 | 0 | 0 | 0 | 0.4320 | 0.2520 | 0.2610 |
| EMMA PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO1010254 | LAFAYETTE | 1968 | 2 | L | 205 | 155 | 0 | 0 | 0 | 100 | 0 | 0 | | 0.3160 | 0.0500 |
| ESSEX PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO4010255 | STODDARD | 1957 | D2 | L | 474 | 260 | 0 | 100 | 0 | 0 | 0 | 0 | 0.3240 | 0.0470 | 0.0690 |
| EUGENE PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO3010257 | COLE | 1962 | 1 | L | 220 | 45 | 0 | 100 | 0 | 0 | 0 | 0 | 0.2520 | 0.0210 | 0.0250 |
| EUREKA PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO6010258 | ST LOUIS | 1959 | C3 | L | 10,574 | 3,901 | 0 | 100 | 0 | 0 | 0 | 0 | 1.6560 | 1.4580 | 3.2600 |
| EVERTON PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO5010259 | DADE | 1964 | 2 | L | 352 | 131 | 0 | 100 | 0 | 0 | 0 | 0 | 0.1450 | 0.0170 | 0.0500 |
| EXCELSIOR SPRINGS PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO1010261 | CLAY | 1906 | B3 | L | 11,084 | 4,244 | 0 | 100 | 0 | 0 | 0 | 0 | 5.0000 | 2.0000 | 7.1000 |
| EXETER PWS | | | | | | | | | | | | | | | |
| System ID Number | County Location | | | | | | | | | | | | | | |
| MO5010262 | BARRY | 1959 | 2 | L | 772 | 315 | 0 | 100 | 0 | 0 | 0 | 0 | 0.5760 | 0.0520 | 0.2500 |

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0039659

Owner: City of Eureka
Address: P.O. Box 125, Eureka, MO 63025

Continuing Authority: Same as above
Address: Same as above

Facility Name: Eureka Wastewater Treatment Facility
Facility Address: Truitt Drive, Eureka, MO 63025

Legal Description: See Page 2
UTM Coordinates: See Page 2

Receiving Stream: See Page 2
First Classified Stream and ID: See Page 2
USGS Basin & Sub-watershed No.: See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

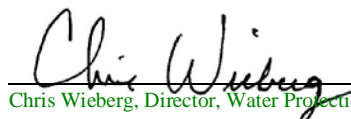
See Page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 621.250 RSMo, Section 640.013 RSMo and Section 644.051.6 of the Law.

June 1, 2018
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

September 30, 2022
Expiration Date


Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (continued):Outfall #004 – POTW – SIC #4952

The use or operation of this facility shall be by or under the supervision of a Certified C Operator.

Influent lift station / bar screen / three-cell aerated lagoon with fine-bubble air diffusers, Aquamats®, and recirculation pumps / ultraviolet disinfection / effluent pump station / sludge retained in lagoon / facility does not have materials stored or conduct operations in a manner that would cause the discharge of pollutants via stormwater

Design population equivalent is 27,500.

Design flow is 2.8 MGD.

Actual flow is 1.6 MGD.

Design sludge production is 400 dry tons/year.

| | |
|---------------------------------|--------------------------------------|
| Legal Description: | Sec. 31, T44N, R4E, St. Louis County |
| UTM Coordinates: | X= 708568, Y= 4265832 |
| Receiving Stream: | Meramec River (P) |
| First Classified Stream and ID: | Meramec River (P) (2185) 303(d) List |
| USGS Basin & Sub-watershed No.: | (07140102-1001) |

Permitted Feature #SM1 – Instream Monitoring

Instream monitoring location – Upstream – See Special Condition #24

| | |
|---------------------------------|--------------------------------------|
| Classified Stream and ID: | Meramec River (P) (2185) 303(d) List |
| USGS Basin & Sub-watershed No.: | (07140102-1001) |

Permitted Feature #SM2 – Instream Monitoring

Instream monitoring location – Downstream – See Special Condition #24

| | |
|---------------------------------|--------------------------------------|
| Classified Stream and ID: | Meramec River (P) (2185) 303(d) List |
| USGS Basin & Sub-watershed No.: | (07140102-1001) |

Eureka, MO
Asset Value Report
Depreciated Value-Water Distribution and Sewer Collection Systems

| Asset Description | Year Installed | Estimated Installation Cost 2019 | Age (2019) | Depreciation Period ¹ | Depreciation ² | Depreciated Value ³ |
|---------------------------|----------------|-------------------------------------|---------------|-------------------------------------|---------------------------|-----------------------------------|
| Water Main | 1959 | \$ 1,702,945.50 | 60 | 50 | \$ 2,043,534.60 | \$ - |
| Water Main | 1977 | \$ 3,405,891.00 | 42 | 50 | \$ 2,860,948.44 | \$ 544,942.56 |
| Water Main | 1990 | \$ 1,702,945.50 | 29 | 50 | \$ 987,708.39 | \$ 715,237.11 |
| Water Main | 1996 | \$ 1,702,945.50 | 23 | 50 | \$ 783,354.93 | \$ 919,590.57 |
| Water Main | 2003 | \$ 5,108,836.50 | 16 | 50 | \$ 1,634,827.68 | \$ 3,474,008.82 |
| Water Main | 2006 | \$ 1,702,945.50 | 13 | 50 | \$ 442,765.83 | \$ 1,260,179.67 |
| Water Main | 2017 | \$ 1,702,945.50 | 2 | 50 | \$ 68,117.82 | \$ 1,634,827.68 |
| Fire Hydrants | 1959 | \$ 224,000.00 | 60 | 40 | \$ 336,000.00 | \$ - |
| Fire Hydrants | 1977 | \$ 451,500.00 | 42 | 40 | \$ 474,075.00 | \$ - |
| Fire Hydrants | 1990 | \$ 224,000.00 | 29 | 40 | \$ 162,400.00 | \$ 61,600.00 |
| Fire Hydrants | 1996 | \$ 224,000.00 | 23 | 40 | \$ 128,800.00 | \$ 95,200.00 |
| Fire Hydrants | 2003 | \$ 675,500.00 | 16 | 40 | \$ 270,200.00 | \$ 405,300.00 |
| Fire Hydrants | 2006 | \$ 224,000.00 | 13 | 40 | \$ 72,800.00 | \$ 151,200.00 |
| Fire Hydrants | 2017 | \$ 224,000.00 | 2 | 40 | \$ 11,200.00 | \$ 212,800.00 |
| Water Services and Meters | 1959 | \$ 592,500.00 | 60 | 35 | \$ 1,015,714.29 | \$ - |
| Water Services and Meters | 1977 | \$ 1,183,500.00 | 42 | 35 | \$ 1,420,200.00 | \$ - |
| Water Services and Meters | 1990 | \$ 592,500.00 | 29 | 35 | \$ 490,928.57 | \$ 101,571.43 |
| Water Services and Meters | 1996 | \$ 592,500.00 | 23 | 35 | \$ 389,357.14 | \$ 203,142.86 |
| Water Services and Meters | 2003 | \$ 1,774,500.00 | 16 | 35 | \$ 811,200.00 | \$ 963,300.00 |
| Water Services and Meters | 2006 | \$ 592,500.00 | 13 | 35 | \$ 220,071.43 | \$ 372,428.57 |
| Water Services and Meters | 2017 | \$ 592,500.00 | 2 | 35 | \$ 33,857.14 | \$ 558,642.86 |
| Total Water Assets | | \$ 25,196,955.00 | | | | \$ 11,673,972.12 |
| Sewer | 1950 | \$ 1,925,161.00 | 69 | 50 | \$ 2,656,722.18 | \$ - |
| Sewer | 1976 | \$ 3,850,322.00 | 43 | 50 | \$ 3,311,276.92 | \$ 539,045.08 |
| Sewer | 1987 | \$ 1,925,161.00 | 32 | 50 | \$ 1,232,103.04 | \$ 693,057.96 |
| Sewer | 1995 | \$ 1,925,161.00 | 24 | 50 | \$ 924,077.28 | \$ 1,001,083.72 |
| Sewer | 2000 | \$ 5,775,483.00 | 19 | 50 | \$ 2,194,683.54 | \$ 3,580,799.46 |
| Sewer | 2005 | \$ 1,925,161.00 | 14 | 50 | \$ 539,045.08 | \$ 1,386,115.92 |
| Sewer | 2018 | \$ 1,925,161.00 | 1 | 50 | \$ 38,503.22 | \$ 1,886,657.78 |
| Manholes | 1950 | \$ 507,500.00 | 69 | 50 | \$ 700,350.00 | \$ - |
| Manholes | 1976 | \$ 1,018,500.00 | 43 | 50 | \$ 875,910.00 | \$ 142,590.00 |
| Manholes | 1987 | \$ 507,500.00 | 32 | 50 | \$ 324,800.00 | \$ 182,700.00 |
| Manholes | 1995 | \$ 507,500.00 | 24 | 50 | \$ 243,600.00 | \$ 263,900.00 |
| Manholes | 2000 | \$ 1,526,000.00 | 19 | 50 | \$ 579,880.00 | \$ 946,120.00 |
| Manholes | 2005 | \$ 507,500.00 | 14 | 50 | \$ 142,100.00 | \$ 365,400.00 |
| Manholes | 2018 | \$ 507,500.00 | 1 | 50 | \$ 10,150.00 | \$ 497,350.00 |
| Service Laterals | 1950 | \$ 116,700.00 | 69 | 50 | \$ 161,046.00 | \$ - |
| Service Laterals | 1976 | \$ 233,100.00 | 43 | 50 | \$ 200,466.00 | \$ 32,634.00 |
| Service Laterals | 1987 | \$ 116,700.00 | 32 | 50 | \$ 74,688.00 | \$ 42,012.00 |
| Service Laterals | 1995 | \$ 116,700.00 | 24 | 50 | \$ 56,016.00 | \$ 60,684.00 |
| Service Laterals | 2000 | \$ 349,800.00 | 19 | 50 | \$ 132,924.00 | \$ 216,876.00 |
| Service Laterals | 2005 | \$ 116,700.00 | 14 | 50 | \$ 32,676.00 | \$ 84,024.00 |
| Service Laterals | 2018 | \$ 116,700.00 | 1 | 50 | \$ 2,334.00 | \$ 114,366.00 |
| Total Wastewater Assets | | \$ 25,500,010.00 | | | | \$ 12,035,415.92 |

Note 1 - Based on Missouri PSC Rate Case Dockets WR-2015-0138 Village Greens Water Company; WR-2016-0169 Woodland Manor Water Company; WR-2015-0104 Spokane Highlands Water Company; SR-2014-0105 Terre Du Lac Utility Company; SR-2014-0068 P.C.B., Inc.; and SR-2013-0435 Rogue Creek Sewer.

Note 2 - Depreciation = Age/Depreciation Period X Estimated Installation Cost

Note 3 - Depreciated Value = Estimated Installation Cost - Depreciation

VILLAGE GREENS WATER COMPANY
SCHEDULE of DEPRECIATION RATES
(WATER Class D)
WR-2015-0138 Attachment D

| NARUC USOA ACCOUNT NUMBER | ACCOUNT DESCRIPTION | DEPRECIATION RATE | AVERAGE SERVICE LIFE (YEARS) | NET SALVAGE |
|--|--|------------------------------|---|------------------------|
| Source of Supply | | | | |
| 311 | Structures & Improvements | 2.5% | 44 | -10% |
| 314 | Wells & Springs | 2.0% | 55 | -8% |
| Pumping Plant | | | | |
| 321 | Structures & Improvements | 2.5% | 44 | -10% |
| 325.1 | Submersible Pumping Equipment | 10.0% | 12 | -20% |
| Water Treatment Plant | | | | |
| 331 | Structures & Improvements | 2.5% | 44 | -10% |
| 332 | Water Treatment Equipment | 2.9% | 35 | 0% |
| Transmission and Distribution | | | | |
| 342 | Distribution Reservoirs & Standpipes | 2.5% | 42 | -5% |
| 343 | Transmission & Distribution Mains | 2.0% | 50 | 0% |
| 345 | Customer Services | 2.5% | 40 | 0% |
| 346.1 | Customer Meters, Plastic (Throw Aways) | 10.0% | 10 | 0% |
| 347 | Customer Meter Pits & Installation | 2.5% | 40 | 0% |
| 348 | Hydrants | 2.0% | 50 | 0% |
| General Plant CLASS D | | | | |
| 371 | Structures & Improvements | 2.5% | 40 | 0% |
| 372 | Office Furniture & Equipment | 5.0% | 20 | 0% |
| 372.1 | Office Electronic & Computer Equip. | 14.3% | 7 | 0% |
| 373 | Transportation Equipment | 13.0% | 7 | 9% |
| 379 | Other General Equipment (tools, shop equip., backhoes, trenchers, etc.) | 10.0% | 8.7 | 13% |

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=WR-2015-0138&attach_id=2015030930

*Revised 1/23/2015

**For Staff Proposed Adoption by Missouri-American Water Company
WM-2016-0169**

**Woodland Manor Water Company
SCHEDULE of DEPRECIATION RATES dated 4/1/2013
(WATER Class D)
WR-2013-0326**

USOA

| <u>ACCOUNT NUMBER</u> | <u>ACCOUNT DESCRIPTION</u> | <u>DEPRECIATION RATE</u> | <u>AVERAGE SERVICE LIFE (YEARS)</u> | <u>NET SALVAGE</u> |
|--------------------------------------|---|--------------------------|-------------------------------------|--------------------|
| Source of Supply | | | | |
| 311 | Structures & Improvements | 2.5% | 44 | -10% |
| 314 | Wells & Springs | 2.0% | 55 | -8% |
| Pumping Plant | | | | |
| 321 | Structures & Improvements | 2.5% | 44 | -10% |
| 325 | Electric Pumping Equip. (Plus Generator) | 6.7% | 15 | 0% |
| 328 | Other Pumping Equipment | 5.0% | 20 | 0% |
| WaterTreatment Plant | | | | |
| 332 | Water Treatment Equipment | 2.9% | 35 | \$0 |
| Transmission and Distribution | | | | |
| 342 | Distribution Reservoirs & Standpipes | 2.5% | 42 | -5% |
| 343 | Transmission & Distribution Mains | 2.0% | 50 | 0% |
| 345 | Customer Services | 2.9% | 35 | 0% |
| 346.1 | Customer Meters (Installed after 2012)* | 10.0% | 10 | 0% |
| 346.2 | Bronze Meters and Installs prior 2013 | 3.3% | 30 | 0% |
| 347 | Meter Installations (Meter Pits after 2012) | 2.5% | 40 | 0% |
| 348 | Hydrants | 2.5% | 40 | 0% |
| 349 | Other Transmission & Distribution Plant | 3.3% | 30 | 0% |
| General Plant | | | | |
| 372 | Office Equipment & Furniture | 5.0% | 20 | 0% |
| 372.1 | Office Electronic Equipment | 14.3% | 7 | 0% |
| 373 | Transportation Equipment | 13.0% | 7 | 9% |
| 379 | Other General Equipment | 6.7% | 13 | 13% |

Customer Meters (Installed after 2012)* Plus 18 plastic meters installed in 2007

The above recommended depreciation rates are based on Staff's review of the Company's operation and records.

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=WM-2016-0169&attach_id=2016015052

SPOKANE HIGHLANDS WATER COMPANY
DEPRECIATION RATES
(WATER)
CASE NO. WR-2015-0104

| <u>ACCOUNT NUMBER</u> | <u>ACCOUNT</u> | <u>DEPRECIATION RATE %</u> | <u>AVERAGE SERVICE LIFE (YEARS)</u> | <u>SALVAGE %</u> |
|-----------------------|--------------------------------------|----------------------------|-------------------------------------|------------------|
| 311 | Structures & Improvements | 2.5% | 44 | -10% |
| 314 | Wells & Springs | 2.0% | 55 | -8% |
| 325 | Electric Pumping Equipment | | | |
| 325.1 | Submersible (Well Pump) Equipment | 10.0% | 12 | -20% |
| 325.2 | High Service or Booster Pumps | 2.0% | 7 | 0% |
| 342 | Distribution Reservoirs & Standpipes | 2.5% | 42 | -5% |
| 343 | Transmission & Distribution Mains | 2.0% | 50 | 0% |
| 345 | Services | 2.9% | 35 | 0% |
| 346 | Meters | 2.0% | 10 | 0% |
| 347 | Meter Installations | 1.0% | 50 | 0% |
| 348 | Hydrants | 2.5% | 40 | 0% |
| 372 | Office Furniture & Equipment | 5.0% | 20 | 0% |
| 379 | Other General Equipment | 6.7% | 13 | 13% |

ATTACHMENT C

Terre Du Lac Utility Company
DEPRECIATION RATES
(SEWER)
SR-2014-0105

| ACCOUNT NUMBER | ACCOUNT DESCRIPTION | DEPRECIATION RATE | AVERAGE SERVICE LIFE (YEARS) | NET SALVAGE |
|---------------------------|---------------------------------------|------------------------------|---|------------------------|
| 300 | Stipulated Plant | 2.5% | 40 | 0% |
| 311 | Structures and Improvements | 2.5% | 44 | -10% |
| 352.1 | Collection Sewers (Force) | 2.0% | 50 | 0% |
| 352.2 | Collection Sewers (Gravity) | 2.0% | 50 | 0% |
| 353 | Services | 2.0% | 50 | 0% |
| 354 | Flow Measurement Devices | 3.3% | 30 | 0% |
| 362 | Receiving Wells | 5.0% | 26 | -5% |
| 363 | Electric Pumping Equipment | 10.0% | 10 | 0% |
| 371 | Treatment Plant Shed | 2.5% | 44 | -10% |
| 372 | Treatment & Disposal Equipment | 5.0% | 22 | -10% |
| 390 | Structures & Improvements Office/Shop | 2.5% | 44 | -10% |
| 391 | Office Furniture & Equipment | 5.0% | 20 | 0% |
| 391.1 | Electronic Office Equipment | 0.0% | Excessively Accrued | |
| 392 | Transportation Equipment | 13.0% | 7 | 9% |
| 393 | Stores Equipment | 4.0% | 25 | 0% |
| 394 | Tools, Shop, and Garage Equipment | 5.0% | 18 | 10% |
| 395 | Laboratory Equipment | 8.3% | 12 | 0% |
| 396 | Power Operated Equipment | 6.7% | 13 | 13% |
| 397 | Communication Equipment | 3.3% | Over Accrued | |

Reviewed, 1/7/2014. The above are standard small company depreciation rates modified as a result of Staff's investigation of the Company's operation, records, and physical plant, and are dependent on the Company's implementation of the end of test year adjustments to the Company's plant in service and accumulated reserves as shown in the Staff accounting schedules.

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=SR-2014-0105&attach_id=2014014505

P.C.B., Inc.
SCHEDULE of DEPRECIATION RATES
(SEWER Class C & D)
SR-2014-0068 Attachment D

| <u>ACCOUNT NUMBER</u> | <u>ACCOUNT DESCRIPTION</u> | <u>DEPRECIATION RATE</u> | <u>AVERAGE SERVICE LIFE (YEARS)</u> |
|---------------------------------------|---------------------------------|------------------------------|---|
| COLLECTION PLANT | | | |
| 311 | Structures & Improvements | 3.3% | 33 |
| 352.2 | Collection Sewers (Gravity) | 2.0% | 50 |
| 355 | Flow Measurement Devices | 3.3% | 30 |
| PUMPING PLANT | | | |
| 362 | Receiving Wells | 4.0% | 26 |
| 363 | Electric Pumping Equipment | 10.0% | 10 |
| TREATMENT & DISPOSAL PLANT | | | |
| 372 | Oxidation Lagoons | 4.0% | 40 |
| 373 | Treatment & Disposal Facilities | 5.0% | 22 |
| 375 | Outfall Sewer Lines | 2.0% | 50 |
| GENERAL PLANT | | | |
| 391 | Office Furniture & Equipment | 5.0% | 20 |

Reviewed, 1/07/2014. The above are standard small company depreciation rates modified as a result of Staff's investigation of the Company's operation, records, and physical plant, and are dependent on the Company's implementation of the end of test year adjustments to the Company's plant in service and accumulated reserves as shown in the Staff accounting schedules.

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=SR-2014-0068&attach_id=2014016258

Rogue Creek Sewer
Interim Rate Case
SR-2013-0435
Test Year Ending 12-31-2012
Depreciation Expense - Sewer

| Line Number | A Account Number | B Plant Account Description | C Adjusted Jurisdictional | D Depreciation Rate | E Depreciation Expense |
|-------------|---------------------|--|------------------------------|------------------------|---------------------------|
| 1 | | INTANGIBLE PLANT | | | |
| 2 | 301.000 | Organization | \$135 | 0.00% | \$0 |
| 3 | 302.000 | Franchises | \$1,127 | 0.00% | \$0 |
| 4 | 303.000 | Miscellaneous Intangible Plant | \$0 | 0.00% | \$0 |
| 5 | | TOTAL INTANGIBLE PLANT | <u>\$1,262</u> | | <u>\$0</u> |
| 6 | | SOURCE OF SUPPLY PLANT | | | |
| 7 | 310.000 | Land & Land Rights | \$0 | 0.00% | \$0 |
| 8 | 311.000 | Structures & Improvements | \$2,532 | 3.00% | \$76 |
| 9 | | TOTAL SOURCE OF SUPPLY PLANT | <u>\$2,532</u> | | <u>\$76</u> |
| 10 | | COLLECTION PLANT | | | |
| 11 | 352.100 | Collection Sewers - Force | \$12,827 | 2.00% | \$257 |
| 12 | 352.200 | Collection Sewers - Gravity | \$105,094 | 2.00% | \$2,102 |
| 13 | 353.000 | Other Collection Plant Facilities | \$0 | 0.00% | \$0 |
| 14 | 354.000 | Services to Customers | \$18,120 | 2.00% | \$362 |
| 15 | 355.000 | Flow Measuring Devices | \$0 | 0.00% | \$0 |
| 16 | | TOTAL COLLECTION PLANT | <u>\$136,041</u> | | <u>\$2,721</u> |
| 17 | | PUMPING PLANT | | | |
| 18 | 362.000 | Receiving Wells and Pump Pits | \$1,804 | 5.00% | \$90 |
| 19 | 363.000 | Pumping Equipment (Elec., Diesel, other) | \$24,068 | 10.00% | \$2,407 |
| 20 | | TOTAL PUMPING PLANT | <u>\$25,872</u> | | <u>\$2,497</u> |
| 21 | | TREATMENT & DISPOSAL PLANT | | | |
| 22 | 372.000 | Oxidation Lagoon | \$0 | 0.00% | \$0 |
| 23 | 373.000 | Treatment and Disposal Equipment | \$31,190 | 4.50% | \$1,404 |
| 24 | 374.000 | Plant Sewers | \$0 | 0.00% | \$0 |
| 25 | 375.000 | Outfall Sewer Lines | \$0 | 0.00% | \$0 |
| 26 | 376.000 | Other Treatment & Disposal Plant Equip. | \$0 | 0.00% | \$0 |
| 27 | | TOTAL TREATMENT & DISPOSAL PLANT | <u>\$31,190</u> | | <u>\$1,404</u> |
| 28 | | GENERAL PLANT | | | |
| 29 | 391.000 | Office Furniture & Equipment | \$467 | 5.00% | \$23 |
| 30 | 391.100 | Office Computer Equipment | \$371 | 20.00% | \$74 |
| 31 | 392.000 | Transportation Equipment | \$228 | 13.00% | \$30 |
| 32 | 394.000 | Tools Shop & Garage Equipment. | \$15 | 5.00% | \$1 |
| 33 | | TOTAL GENERAL PLANT | <u>\$1,081</u> | | <u>\$128</u> |
| 34 | | Total Depreciation | <u>\$197,978</u> | | <u>\$6,826</u> |

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=SR-2013-0435&attach_id=2013018070