Exhibit No. 11

MAWC – Exhibit 11
Brian W. LaGrand
Direct Testimony
File No. WA-2021-0376

Exhibit No.:	
Issues:	Eureka Acquisition
Witness:	Brian W. LaGrand
Exhibit Type:	Direct
Sponsoring Party:	Missouri-American Water Company
Case No.:	WA-2021-0376
Date:	November 5, 2021

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WA-2021-0376

DIRECT TESTIMONY

OF

BRIAN W. LAGRAND

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

Exhibit No. 11
Date 1/20/22 Reporter BJB
File No.

AFFIDAVIT

I, Brian W. LaGrand, under penalty of perjury, and pursuant to Section 509.030, RSMo, state that I am Director of Rates and Regulatory Support for Missouri-American Water Company, 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.

Brian W. LaGrand

November 5, 2021
Dated

DIRECT TESTIMONY
BRIAN W. LAGRAND
MISSOURI AMERICAN WATER COMPANY
CASE NO.: WA-2021-0376

TABLE OF CONTENTS

DIRECT TESTIMONY

BRIAN W. LAGRAND

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Brian W. LaGrand, and my business address is 727 Craig Road, St. Louis, MO, 63141.

Q. By whom are you employed and in what capacity?

A. I am employed by Missouri-American Water Company ("MAWC", "Missouri-American" or the "Company") as the Director of Rates and Regulatory Support.

Q. Please summarize your educational background and business experience.

A. I received a Master of Business Administration degree from Washington University in St. Louis in 1998, with a concentration in Finance, and a Bachelor of Science in Business Administration degree from the University of Dayton in 1993, with a major in Accounting. After graduation from the University of Dayton, I was licensed in Ohio as a Certified Public Accountant, and was employed as an Auditor by J.D. Cloud and Associates until 1996. After graduating from Washington University, I spent two years at May Department Stores Company in the Capital Planning & Analysis department, focusing on the evaluation of capital investments. In 2000, I began working for Anheuser-Busch Companies as a Financial Analyst in the Treasury Group. My responsibilities included managing the foreign currency derivative portfolio in Risk Management and running the commercial paper and share repurchase programs in Corporate Finance. In 2005, I moved into the Business & Wholesaler Development Group as a Sr. Business Analyst, where I worked on acquisitions of craft breweries and competitive analysis. In 2010, I joined American Water

Works Service Company, Inc. ("Service Company") as a Manager in the Corporate Finance Group. My focus included evaluation of acquisition opportunities across the country and the execution of many acquisitions, including several in Missouri. In November of 2016, I was promoted to my current position as Director of Rates and Regulatory Support for MAWC.

Q. What are your current employment responsibilities?

A. My responsibilities as Director of Rates and Regulatory Support include the following: 1) preparing and presenting all rate change applications and supporting documents and exhibits as prescribed by management policies, guidelines and regulatory commission requirements; 2) preparing rate analyses and studies to evaluate the effect of proposed rates on the revenues, rate of return and tariff structures; 3) executing the implementation of rate orders, including development of the revised tariff pricing necessary to produce the proposed revenue level; 4) overseeing the preparation of revenue and capital requirements analyses; and 5) providing support for financial analyses, including preparation of applicable regulatory commission filings.

Q. Are you generally familiar with the operations, books and records of MAWC?

A. Yes.

Q. Have you previously testified before the Missouri Public Service Commission?

A. Yes. Please see **Schedule BWL-1** for a list of proceedings where I provided testimony before the Missouri Public Service Commission ("Commission").

II. SCOPE OF TESTIMONY

Q. What is the purpose of your direct testimony in this proceeding?

A. The purpose of my Direct Testimony is to review the application of the relevant statute to

the relief that is requested, discuss the customer impacts of acquisitions generally, and Eureka specifically, discuss proposed rates and tariffs, and to discuss the two versions of the Flinn Engineering report.

Q. Who are the witnesses supporting the Company in this case?

A. In addition to myself, the following witnesses are providing Direct Testimony in support of the Company's position in this case:

- Jeff Kaiser, Vice President of Operations for MAWC, testifies in support of MAWC's Application, the general scope and size of existing infrastructure, MAWC's plans for improvements, and operational benefits of this acquisition.
- Brian Eisenloeffel, Senior Director of Operations for MAWC, testifies in support of MAWC's Application for certificates of convenience and necessity associated with the acquisition of the water and wastewater system of the City of Eureka.
- Sean Flower, Mayor of the City of Eureka, testifies in support of the City's decision to sell the system to MAWC and the public interest served by this transaction.
- Kelly Simpson, Owner of Flinn Engineering LLC, testifies in support of the Engineering Report provided to the appraisers in support of the Appraisal Report.
- Joseph Batis, President of Edward J. Batis & Associates, Inc., testifies in support of the Appraisal Report provided to the City of Eureka.

III. SECTION 393.320, RSMo

Q. Are you familiar with Section 393.320, RSMo?

A. Yes, this is the statute adopted by the Missouri Legislature establishing a streamlined process concerning the acquisition of smaller water or wastewater utilities by large water

or wastewater public utilities.

Q. Is MAWC a "large water public utility" under that section?

A. Yes. MAWC regularly provides water service or sewer service to more than 8,000 customer connections. MAWC also provides safe and adequate service.

Q. Is Eureka a small water utility under that section?

A. Yes. Eureka regularly provides water service to 8,000 or fewer customer connections and sewer service to 8,000 or fewer customer connections.

Q. Has MAWC chosen the procedures set forth in Section 393.320 to apply to this transaction?

A. Yes. Section 393.320 provides that MAWC "may" choose these procedures, and MAWC has done so. Accordingly, the statute then commands that these procedures "shall be used" by this Commission.

Q. Were appraisers appointed and an appraisal conducted?

A. Yes. One appraiser was appointed by Eureka; one was appointed by MAWC; and the third was appointed by the first two appraisers. Each appraiser is disinterested and is certified as a general appraiser under Chapter 339 of the Missouri Code. The appraisers prepared an appraisal of the fair market value of the water system and the sewer system. They returned the appraisal in writing to MAWC and Eureka in a reasonably timely manner, and their written appraisal was signed by at least two of the appraisers. Accordingly, Section 393.320 provides that the appraisal "constitutes a good and valid appraisal."

Q. What does this mean for this transaction?

A. It means that the lesser of the purchase price or the appraised value, together with the

reasonable and prudent transaction, closing and transition costs incurred by MAWC shall constitute the ratemaking rate base for the Eureka system being acquired by MAWC. Notably, Eureka is not a public utility subject to the jurisdiction of the Commission.

IV. CUSTOMER IMPACTS FROM ACQUISITIONS

Q. In general, what are the impacts to customers when MAWC acquires another water or wastewater utility?

A. Generally speaking, there are two customer bases that would be impact in slightly different ways a result of an acquisition – the acquired customers and the existing MAWC customers. While the impacts will vary with each transaction, by becoming part of the MAWC system, the customers of the system MAWC is acquiring will enjoy many benefits, including consistent safe and reliable water and wastewater service, professional water and wastewater operational and engineering management, improved customer service, and future rate stability.

Q. What typically happens to the rates of customers when they are acquired by MAWC?

A. In the Application for a CCN, MAWC will generally propose which rates the acquired customers should be placed on at the time of closing. Typically, this would be either the existing rates for those customers or an existing MAWC rate. The Commission will determine the appropriate rates for the acquired customers as part of the CCN case.

Q. Do MAWC's current customers benefit from acquisitions of other water and wastewater utilities?

A. Yes. Adding customers to the MAWC system enables the Company to spread operating costs across a wider base. Therefore, by adding additional customers, MAWC's customers as a whole recognize greater economies of scale. This allows the impacts of operating

costs and investments to be distributed over a broader customer base. Certain operating costs are incurred regardless of the number of customers served, water produced or delivered, or gallons of wastewater treated. These costs would then be spread over a greater base, lowering the per unit or per customer costs for everyone. There are times when a smaller system simply cannot afford certain items to efficiently run their system. For example, MAWC has access to some of the top chemists and scientists to test and treat the water system. An acquired system would now have access to those capabilities whereas before the acquisition they likely would not.

Q. Does Section 393.320, RSMo, contemplate the consolidation of existing and acquired systems?

A. Yes. Section 393.320.6, RSMo, states: "Upon the date of the acquisition of a small water utility by a large water public utility, whether or not the procedures for establishing ratemaking rate base provided by this section have been utilized, the small water utility shall, for ratemaking purposes, become part of an existing service area, as defined by the public service commission, of the acquiring large water public utility that is either contiguous to the small water utility, the closest geographically to the small water utility, or best suited due to operational or other factors. This consolidation shall be approved by the public service commission in its order approving the acquisition."

Q. What would that mean for Eureka customers?

A. For Eureka water customers, they would become part of the St. Louis County tariff group. For Eureka sewer customers, they would become part of the Other Sewer tariff group.

Q. Does that mean that existing MAWC customers would pay for capital investments made in Eureka?

A. To a certain extent, yes. However, it would be reciprocal, and Eureka customers would pay for capital investments made for existing MAWC customers. In MAWC's next rate case, the cost of service would consider the utility plant investments and expenses incurred by the tariff group as a whole. That means that existing MAWC customers will pay for capital investments made in Eureka, but it also means that Eureka customers would be paying for investments made outside of Eureka. By spreading the costs over a larger customer base, necessary improvements can be completed on smaller systems with minor impacts to other customers. To be fair, when existing MAWC systems have capital needs, the newly acquired customers will help pay a portion of those costs.

Q. What would the impact of this transaction be to MAWC overall?

A. The acquisition of the Eureka water and wastewater systems would increase MAWC's rate base by $28.0 million, or 1.6%. For the St. Louis County water tariff group, the rate base increase is 1.5%, and for the Other Missouri Wastewater tariff group, the rate base increase is 29.5%. Please see Table BWL-1 for the details.

Table BWL-1

	MAWC Rate Base 12/31/20	Eureka Rate Base	Pro-Forma MAWC Rate Base With Eureka	Change in MAWC Rate Base
Water				
St. Louis County	$1,190,189,681	$18,000,000	$1,208,189,681	1.5%
Other Missouri Water	474,737,768		474,737,768	0.0%
Total Water	**$1,664,927,449**	**$18,000,000**	**$1,682,927,449**	**1.1%**
			-	
Wastewater				
Arnold Wastewater	$18,017,948		$18,017,948	0.0%
Other Missouri Wastewater	33,919,100	10,000,000	43,919,100	29.5%
Total Wastewater	**$51,937,048**	**$10,000,000**	**$61,937,048**	**19.3%**
			-	
Total MAWC	**$1,716,864,497**	**$28,000,000**	**$1,744,864,497**	**1.6%**

V. TARRIFS & RATES

Q. What water tariff does MAWC propose to use for the Eureka area?

A. MAWC proposes to utilize the rules governing rendering of sewer service currently found in MAWC's sewer tariff P.S.C. MO No. 13, until such time as the rules are modified according to law.

Q. What water rates does MAWC propose to use for the Eureka area?

A. MAWC proposes to charge those rates charged by Eureka at the time of closing.

Q. What do you anticipate those water rates to be for all customers?

A. The expected water rates for the City of Eureka at the time of closing are shown in Table BWL-2.

Table BWL-2

Customer Charge

Meter Size	Monthly Charge
5/8"	$9.00
3/4"	$12.25
1"	$16.58
1.5"	$27.42
2.0"	$40.43
3.0"	$71.10
4.0"	$114.11
6.0"	$222.47
8.0"	$379.54
10.0"	$637.71
12.0"	$765.25

Commodity Charge

Usage	Rate per 1,000 gallons
All usage	$4.7814

Q. What sewer tariff does MAWC propose to use for the Eureka area?

A. MAWC proposes to utilize the rules governing rendering of sewer service currently found in MAWC's sewer tariff P.S.C. MO No. 26, until such time as the rules are modified

according to law.

Q. What sewer rates does MAWC propose to use for the Eureka area?

A. MAWC proposes to charge those rates charged by Eureka at the time of closing.

Q. What do you anticipate the sewer rates to be?

A. The expected residential wastewater rates for the City of Eureka at the time of closing are shown in Table BWL-3 and the commercial wastewater rates are shown in Table BWL-4.

Table BWL-3

Customer Charge

Customer Type	Monthly Charge
All customers	$38.75

Table BWL-4

Customer Charge

Meter Size	Monthly Charge
5/8"	$38.75
3/4"	$50.42
1"	$73.68
1.5"	$131.89
2.0"	$201.75
3.0"	$355.44
4.0"	$582.37

Commodity Charge

Usage	Rate per 1,000 gallons
First 6,000 gallons	$0.0000
Over 6,000 gallons	$6.4590

VI. FLINN ENGINEERING REPORT

Q. Over the course of this certificate case, MAWC provided two different versions of the Flinn Engineering Report. Please explain why two different reports were provided.

A. A few days after MAWC filed the Application in this case, the Staff of the Commission asked if I would provide the Flinn report, as it was not included in the Application. I sent the Flinn report, dated March 16, 2020 to Andrew Harris of PSC Staff on May 5, 2021. This communication is included as **Schedule BWL-2**. The next day, on May 6, 2021, PSC Staff issued data request 0015, asking for the Flinn Engineering report referenced in Appendix A to the Application, which was the appraisal. When MAWC responded to that data request on May 26, 2021, an earlier version of the Flinn report issued on January 18, 2020 was inadvertently included in the response.

Q. Did MAWC have an opportunity to explain this discrepancy?

A. Yes. Staff issued data request 0035 to seek clarification about why there were two reports. MAWC's response to data request 0035 is included at **Schedule BWL-3**. In the response we explain that the January 2020 report was later revised in March 2020 to reflect more accurate information about the age of the distribution and collection systems. The use of St. Louis County GIS parcel data and aerial views of the area allowed for a more accurate estimation of the installation date of many of the assets. For further explanation of this modification to the Flinn Engineering report, please see the Direct Testimony of Company witness Kelly Simpson.

Q. Between June 25, 2021, when MAWC provided the response to data request 0035, and when Staff filed its Recommendation on October 1, 2021, did Staff inquire further about the two versions of the Flinn Engineering report?

A. No, they did not.

Q. Does this conclude your direct testimony?

A. Yes.

Brian W. LaGrand
Missouri American Water
Director of Rates & Regulatory Support

Case Participation

Case Number	Case Type	Testimony Issues
Cases Before Missouri Public Service Commission		
WU-2020-0417	Accounting Authority Order	**Direct:** COVID-19 Deferral, Accounting Authority Order
WR-2020-0344	General Rate Case	**Direct:** Company Accounting Schedules, Acquisitions, Revenue Requirement, Capital Structure, Revenues, Rate Base, Depreciation Expense, Rate Case Expense, Minimum Filing Requirements, Pension and OPEB Expense, Pension and OPEB Tracker, Property Taxes, Credit Card Fees **Revenue Requirement Rebuttal:** Revenue Requirement, Capital Structure, Present Rate Revenues, Rate Base, Engineered Coatings, Allowance for Funds Used During Construction, Depreciation Expense, Amortization Expense, OPEB Expense, Rate Case Expense, Affiliate Transactions, Credit Card Fees, and Property Taxes **Rate Design Rebuttal:** Corporate Allocations, Special Contracts, Customer Classifications **Surrebuttal:** Rate Design, Revenues AFUDC, Amortization of Regulatory Assets, Affiliate Transactions, COVID-19 AAO Deferral, Working Capital, Capital Spending Projections, Engineered Coatings, Lead Service Lines, Property Tax Tracker, Credit Card Fees, Rate Case Expense
WO-2020-0190	ISRS	**Direct:** Infrastructure System Replacement Surcharge
WO-2018-0184	ISRS	**Direct:** Infrastructure System Replacement Surcharge **Rebuttal:** Infrastructure System Replacement Surcharge
WO-2017-0393	ISRS	**Direct:** Infrastructure System Replacement Surcharge
WR-2017-0285	General Rate Case	**Direct:** Company Accounting Schedules, Acquisitions, Revenue Requirement, Revenues, Rate Design, Rate Base, Depreciation Expense, Amortization Expense, Rate Case Expense, Minimum Filing Requirements **Revenue Requirement Rebuttal:** Revenue Requirement, Present Rate Revenues, Rate Base, Depreciation Expense, Amortization Expense, Rate Case Expense **Rate Design Rebuttal:** Water & Sewer Cost Allocations, Arnold Rates, Miscellaneous Fees, Fire Tariffs **Surrebuttal:** Water Rate Design, Fixed Charge, Offset Mechanism, Sewer Rate Design, Miscellaneous Fees, Low Income Tariff, Property Taxes, Customer Usage, Depreciation Expense, Negative Depreciation Reserves, Regulatory Deferrals, Rate Case Expense, Working Capital
WU-2017-0351	Accounting Authority Order	**Direct:** Property Tax Expense, Accounting Authority Order **Surrebuttal:** Property Tax Expense, Accounting Authority Order

WU-2017-0296	Accounting Authority Order	**Direct:** Lead Service Line Replacement program, Cost Recovery, Accounting Authority Order **Rebuttal:** Accounting Authority Order, Cost Recovery **Surrebuttal:** Accounting Treatment
WA-2012-0066	Application for Certificate	**Direct:** Financial Analysis of Saddlebrooke Acquisition
Cases Before Illinois Commerce Commission		
15-0458	Acquisition of the City of Grafton Sewer	**Direct:** Rate, Financial and Accounting aspects of the acquisition
14-0105	Acquisition of Hardin County Water	**Direct:** Rate, Financial and Accounting aspects of the acquisition, Illinois Small Systems Viability Act
13-0073	Acquisition of the City of Grafton Water	**Direct:** Rate, Financial and Accounting aspects of the acquisition

From:	Brian W LaGrand
To:	Harris, Andrew
Cc:	Roos, David; Gateley, Curtis
Subject:	RE: Eureka application
Date:	Wednesday, May 5, 2021 1:31:09 PM
Attachments:	Eureka Report.pdf

Andy,

Here you go. It took a bit to track it down.

BWL

Brian LaGrand
Director of Rates & Regulatory Support
Missouri American Water
727 Craig Road | St. Louis, MO 63141
O: 314-996-2357 | M: 314-740-9384
brian.lagrand@amwater.com

From: Harris, Andrew <Andrew.Harris@psc.mo.gov>
Sent: Friday, April 30, 2021 8:47 AM
To: Brian W LaGrand <Brian.LaGrand@amwater.com>
Cc: Roos, David <david.roos@psc.mo.gov>; Gateley, Curtis <Curtis.Gateley@psc.mo.gov>
Subject: Eureka application

Good morning Brian,

The Valuation report in the Eureka application states that the Flinn Engineering report was relied on ... but we have not found the report yet in the application. Can you steer me to the location?

Thanks,

Andy

Flinn engineering

Flinn Engineering, LLC
11216 Neumann Lane
Highland, Illinois 62249
618-550-8427
ksimpson@flinnengineering.com

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 Wate 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

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

PSC 0035

DATA INFORMATION REQUEST
Missouri-American Water Company
WA-2021-0376/SA-2021-0377
Eureka Acquisition

Requested From: Nikki Pacific

Date Requested: 06/25/2021

Information Requested:

In the Eureka Valuation Report, Appendix A page 2 of the application, the authors acknowledge that the Flinn Engineering Report was relied upon in completing their analysis of the subject property system. However, two different versions of the Flinn Engineering Report were filed in this case. The first version, dated March 16, 2020, is specified in the Valuation Report. A second version of the Flinn Engineering Report, dated January 18, 2020, was later filed in response to DR 0015, and that version reports much lower values for both the water and the sewer systems.

1. Please provide all supporting information from Flinn Engineering that was used in generating these two different report versions including Appendices A through E for both of the Flinn Engineering Report versions.

2. Please explain why two final versions of the Flinn Engineering Report were generated.

3. Please provide any other appraisals or valuation reports associated with the preparation of the sale of the Eureka water and wastewater systems to MAWC.

Requested By: Mark Johnson

Information Provided:

1. Please see MoPSC 0035 Attachment 1 for the complete Flinn Engineering report from March 2021, including all appendices. Please see MoPSC 0035 Attachment 2 for the complete Flinn Engineering report from January 2021, including all appendices. The difference between the two reports can be found in Appendix D, and is related to the asset vintages. The reasons for the March revision to the January report are discussed below.

2. As with many municipal systems, records of construction are rare and therefore the age of the system infrastructure is difficult to determine. The January 18, 2020 report was revised in the March 16, 2020 report to address additional information obtained related to the age of the infrastructure in the Eureka water and sewer systems. This consisted mainly of GIS data and historical arial views that allowed a more accurate determination of the timeline of development in the Eureka area. Specifically, the assumption in the January report was that 70% of buried assets were installed when the system was placed in service (water 1959 and sewer 1950), and that 5% was installed with the installation of each well (water distribution) and lift station (sewer). As described in the March report, *"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.*** *"* And *"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."* Please see MoPSC 0035 Attachment 3 for the parcel data utilized to revise the March 2021 report.

Using GIS data is a significantly more accurate and appropriate method of estimating the age of the assets. While completing the original January report, Flinn Engineering was unaware of the specific GIS data available.

Missouri American is not aware of any other changes between the two reports other than the assumed age of the infrastructure and the resulting residual value of the systems.

3. Missouri American has no other appraisal or valuation reports related to the Eureka water or wastewater systems.

Responsible witness: Brian Eisenloeffel