

**BEFORE THE**

**INDIANA UTILITY REGULATORY COMMISSION**

**PETITION OF CWA AUTHORITY, INC. FOR (1) )  
AUTHORITY TO INCREASE ITS RATES AND )  
CHARGES FOR WASTEWATER UTILITY SERVICE )  
IN THREE PHASES AND APPROVAL OF NEW )  
SCHEDULES OF RATES AND CHARGES ) CAUSE NO. 45151  
APPLICABLE THERETO; (2) APPROVAL OF A )  
LOW-INCOME CUSTOMER ASSISTANCE )  
PROGRAM; AND (3) APPROVAL OF CERTAIN )  
CHANGES TO ITS GENERAL TERMS AND )  
CONDITIONS FOR WASTEWATER SERVICE. )**

**DIRECT TESTIMONY  
of  
JEFFREY A. WILLMAN**

**On  
Behalf of  
Petitioner,  
CWA Authority, Inc.**

**Petitioner's Exhibit No. 4**

1 **I. INTRODUCTION AND BACKGROUND**

2 **Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A1. My name is Jeffrey A. Willman. My business address is 2020 North Meridian  
4 Street, Indianapolis, Indiana 46202.

5 **Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A2. I am employed by the Board of Directors for Utilities of the Department of Public  
7 Utilities of the City of Indianapolis (the "Board of Directors" or "Board"), which  
8 does business as Citizens Energy Group ("Citizens Energy Group" or "Citizens").  
9 Citizens Energy Group is affiliated with CWA Authority, Inc. ("CWA Authority"  
10 or "CWA"), which owns the wastewater utility that provides wastewater  
11 collection and treatment services in Indianapolis and wastewater treatment  
12 services to surrounding communities ("Wastewater System"). Pursuant to a  
13 Management and Operating Agreement approved by this Commission in Cause  
14 No. 43936, Citizens Energy Group provides management and operational services  
15 for the operation of the Wastewater System. CWA is the Petitioner in this  
16 proceeding and is referred to interchangeably in my testimony as "CWA" and  
17 "Petitioner." I serve as Vice President of Water Operations for Citizens Energy  
18 Group, as well as CWA.

19 **Q3. PLEASE DESCRIBE THE DUTIES AND RESPONSIBILITIES OF YOUR**  
20 **PRESENT POSITION.**

21 A3. I am responsible for directing the management, operation and maintenance of the  
22 water system ("Water System"), which is owned by Citizens Energy Group, and  
23 the Wastewater System, and for identifying and planning necessary system

1 upgrades in conjunction with the Capital Programs and Engineering (“CP&E”)  
2 group. I have similar responsibilities for the direction and management of the  
3 water and wastewater systems that are wholly-owned subsidiaries of Citizens  
4 Westfield Utilities, which is also an affiliate of Citizens Energy Group. I am  
5 responsible for setting an appropriate course and strategic direction for the future  
6 of these systems so they are positioned to continue to provide safe and reliable  
7 service long-term.

8 **Q4. HOW LONG HAVE YOU BEEN EMPLOYED BY CITIZENS ENERGY**  
9 **GROUP?**

10 A4. I’ve been employed by Citizens Energy Group since 2007.

11 **Q5. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL**  
12 **BACKGROUND?**

13 A5. I graduated from the University of Evansville in 1987 with a Bachelor of Science  
14 degree in Mechanical Engineering and from Butler University in 1992 with a  
15 Master of Business Administration degree. Prior to my current position, I served  
16 in several positions of increasing responsibility with Citizens Energy Group  
17 including: Director Utility Systems Management (2007-2009), Director  
18 Customer Relationships (2009-2011), Director External Affairs (2011-2014) and  
19 Executive Director Water Operations (2014-2015). Prior to my employment with  
20 Citizens Energy Group, I was employed by Indianapolis Power & Light Company  
21 (“IPL”) for 18 years in various positions of increasing responsibility, including  
22 Director of Business Development Steam Operations (1996-1998), Director of  
23 Business Development (1998-2001), Director of External Affairs (2001-2002),

1 Director of Regulatory Affairs (2002-2003) and Director of Corporate Affairs  
2 (2003-2006).

3 **Q6. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

4 A6. Yes. I have prepared and sponsored testimony in several cases including: Cause  
5 No. 44685 (CWA Rate Case), Cause No. 44685-S1 (CWA Satellite Customer  
6 Subdocket Case), Cause No. 44644 (Citizens Water Rate Case), Cause No. 44835  
7 (Citizens Westfield Wastewater Rate Case), and Cause No. 44149 (Citizens  
8 Thermal Perry K steam plant coal to natural gas conversion). Additionally, I  
9 offered direct testimony for my previous employer IPL in Service Quality (Cause  
10 No. 41962) and Demand Side Management (Cause No. 40292) proceedings.

11 **Q7. WHAT HAVE YOU DONE TO PREPARE YOURSELF TO TESTIFY IN**  
12 **THIS PROCEEDING?**

13 A7. The performance of my day-to-day duties has informed my testimony in this  
14 proceeding, and I also have been directly involved in the preparation of certain  
15 plans and programs discussed in my testimony. During the normal course of my  
16 duties, I work directly with the Wastewater Operations staff that oversees the  
17 daily operation of the Wastewater System. I also work regularly with our CP&E,  
18 Shared Field Service, and Corporate Support Service teams on various operations  
19 and capital planning initiatives for the Wastewater System, including the capital  
20 investment levels prepared for submission in this Cause. I have read the Verified  
21 Petition and the direct testimony and attachments Petitioner filed in this  
22 proceeding.

1 **Q8. WHAT IS THE PURPOSE FOR YOUR DIRECT TESTIMONY IN THIS**  
2 **PROCEEDING?**

3 A8. The general purpose of my testimony is to describe Citizens Energy Group's  
4 ongoing efforts to maintain the safe and reliable operation of the CWA  
5 Wastewater System through effective management, operational oversight, system  
6 improvements and cost control measures. My testimony includes an overview of  
7 the Wastewater System, its operating facilities and the customer base served by  
8 the system. My testimony further describes the recent transition that occurred in  
9 January 2017 from outsourced contract operation of the system to insourced  
10 operation and the positive results associated with the change. In addition, my  
11 testimony describes the start-up and operation of the first 10 miles of the Deep  
12 Rock Tunnel System in December 2017 and the significant amount of combined  
13 sewer overflow ("CSO") volumes that have been captured with this portion of the  
14 tunnel in service. Further, my testimony provides support for the projected capital  
15 investment level presented by Petitioner's witness Mark C. Jacob. Finally, my  
16 testimony provides updates on the recently concluded Satellite Customer  
17 subdocket cases.

18 **Q9. WHAT WERE SOME OF THE ORIGINAL OBJECTIVES OF CWA'S**  
19 **ACQUISITION OF THE WASTEWATER SYSTEM?**

20 A9. The City of Indianapolis ("City") chose to put the Wastewater System in the  
21 hands of CWA, in part, because Citizens Energy Group had many years of  
22 experience owning and operating utilities, which was especially important given  
23 the scope and complexity of implementing the federally-mandated Consent

1 Decree. The asset transfer was designed to ensure the continued sustainability of  
2 the Wastewater System. It was supported by the Office of Utility Consumer  
3 Counselor (“OUCC”) as well as certain large industrial wastewater utility  
4 customers (the “Industrial Group”)<sup>1</sup> and was approved by the Commission in the  
5 acquisition case, Cause No. 43936. In finding that the transfer of the Water and  
6 Wastewater Systems from the City to Citizens Energy Group and CWA,  
7 respectively, was in the public interest, the Commission explained that the  
8 significant challenges facing those systems, “underscores the need to ensure these  
9 critical utility assets are under the operational control of a qualified and  
10 experienced utility organization.” (Order at p. 18). The Commission went on to  
11 state that both systems require a significant amount of capital, and that “[t]his is  
12 particularly true with respect to the Wastewater utility, which must comply with  
13 the terms of the Consent Decree.” (Order at p. 18).

14 **Q10. HAS CWA ACHIEVED ANY RECENT MILESTONES THAT FURTHER**  
15 **THE ORIGINAL PURPOSE AND OBJECTIVES OF THE**  
16 **ACQUISITION?**

17 A10. Yes. Seven years following the acquisition, milestones continue to be achieved  
18 that demonstrate the original plan is working effectively and that meaningful  
19 results have been achieved regarding cost savings and operational improvements.  
20 One recent milestone is the successful insourcing of the day-to-day operation of  
21 the Wastewater System. Unlike the City, Citizens Energy Group’s primary focus

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<sup>1</sup>The Industrial Group was comprised of Eli Lilly & Company, National Starch, LLC, Rolls-Royce Corporation and Vertellus Agriculture & Nutrition Specialties, Inc.

1 is the management and operation of utility systems directly by Citizens Energy  
2 Group employees with limited third party support. At the time of the acquisition,  
3 CWA took assignment from the City of the Suez (formerly United Water Services  
4 Indiana, LLC) Agreement for the Operation and Maintenance of the Advanced  
5 Wastewater Treatment Facilities and Wastewater and StormWater Collection  
6 System ("Suez Agreement"). However, it did so with the expectation that those  
7 functions performed by Suez could be insourced at a later date to fully align the  
8 ownership and operation of the utility. On January 1, 2017, Citizens Energy  
9 Group allowed the Suez Agreement to expire. It then took over the direct day-to-  
10 day operation of the system with Citizens Energy Group employees, most of  
11 which transferred directly from Suez to Citizens employment. As I discuss later  
12 in my testimony, this transition has resulted in millions of dollars of annual  
13 savings and several process improvements for CWA. Some of the process  
14 improvements have resulted in reduced natural gas use and reduced landfill  
15 disposal. In short, since insourcing, Citizens Energy Group has used its vast  
16 utility operating experience to make the Wastewater System more cost effective  
17 and sustainable.

18 **Q11. HAVE ANY OTHER SIGNIFICANT MILESTONES BEEN ACHIEVED**  
19 **RECENTLY?**

20 A11. Yes. Another recent milestone is the successful start-up and operation of the first  
21 10 miles of the Deep Rock Tunnel System. As described by Petitioner's witness  
22 Mark C. Jacob, the Deep Rock Tunnel System is a major component of the  
23 Consent Decree that will reduce CSOs by capturing and storing those flows for

1 treatment at the Southport Advanced Wastewater Treatment Plant. There are six  
2 distinct major segments to the Deep Rock Tunnel System. Two of those  
3 segments are the Deep Rock Tunnel Connector, which includes the Tunnel Pump  
4 Station, and the Eagle Creek Deep Tunnel. After several years of planning and  
5 construction, the Deep Rock Tunnel Connector, the Tunnel Pump Station, and the  
6 Eagle Creek Deep Tunnel were placed in operation at the end of 2017. These  
7 initial Tunnel segments have already reduced over 500 million gallons of CSO  
8 volumes to local waterways in our community. Public response to the Tunnel  
9 start-up has been very favorable as people recognize this major milestone as  
10 another positive step toward cleaner and healthier waterways. I will discuss the  
11 Tunnel start-up and operations in more detail below.

12 **II. DESCRIPTION OF THE WASTEWATER SYSTEM**

13 **Q12. ARE YOU GENERALLY FAMILIAR WITH THE WASTEWATER**  
14 **SYSTEM, SERVICE AREA AND THE CUSTOMERS SERVED BY THE**  
15 **SYSTEM?**

16 A12. Yes. I am familiar with the general design, configuration and operation of the  
17 Wastewater System and its various components, including the collection system,  
18 lift stations, interceptors, treatment plants, disinfection, solids management,  
19 incinerators, system controls, tunnel storage system, and the tunnel pump station.  
20 I am also familiar with the service territory and customer base served by the  
21 system that includes a mix of residential, commercial, industrial and wholesale (or  
22 Satellite) customers.



1 **Q13. PLEASE PROVIDE A BRIEF OVERVIEW OF CWA'S OPERATIONS,**  
2 **CUSTOMER BASE AND SERVICE AREA.**

3 A13. CWA provides wastewater collection and treatment service to over 242,000 retail  
4 customers within Marion County, which includes a total population of  
5 approximately 860,000 and encompasses an area of approximately 277 square  
6 miles. CWA also serves seven Satellite Community customers that receive, or  
7 have the ability to receive, wholesale wastewater treatment services and are  
8 located within the Central Indiana region, including the City of Beech Grove  
9 ("Beech Grove"), the City of Lawrence ("Lawrence"), Ben Davis Conservancy  
10 District, the Town of Whitestown ("Whitestown"), Tri-County Conservancy  
11 District, the City of Greenwood ("Greenwood") and Hamilton Southeastern  
12 Utilities, Inc. ("HSE") (collectively "Satellite Customers"). Petitioner's  
13 Attachment JAW-1 illustrates CWA's retail service area, which is highlighted in  
14 green.

15 **Q14. DOES THE WASTEWATER SYSTEM EXTEND AND PROVIDE**  
16 **SERVICE TO ALL OF MARION COUNTY?**

17 A14. No. There are approximately 95 square miles in Marion County that are not  
18 currently served by the Wastewater System or a Satellite Customer. Petitioner's  
19 Attachment JAW-2 illustrates the areas of Marion County (clear areas) that are  
20 not currently served by CWA or another service provider.

21 **Q15. DOES CWA PROVIDE COLLECTION SERVICES DIRECTLY TO ANY**  
22 **RETAIL CUSTOMERS LOCATED OUTSIDE OF MARION COUNTY?**

1 A15. Yes. CWA provides wastewater collection service to a small group of customers  
2 located in Hamilton County near Geist Reservoir pursuant to a certificate of  
3 territorial authority ("CTA") granted by the Commission in Cause No. 43936.  
4 CWA also provides collection service to a small group of customers located in  
5 Johnson County near Greenwood pursuant to a CTA recently granted by the  
6 Commission in Cause No. 44999. These two groups of customers are served  
7 through facilities interconnected with CWA's Wastewater System.

8 **Q16. PLEASE BRIEFLY DESCRIBE THE COLLECTION FACILITIES THAT**  
9 **ARE PART OF THE WASTEWATER SYSTEM.**

10 A16. The Wastewater System's collection facilities are divided into two distinct areas.  
11 The central and oldest part of the collection system ("Combined System") was  
12 originally developed in the late 1800s and early 1900s and is a combined sanitary  
13 and storm water collection system. The second part of the collection system  
14 ("Separated System") was developed after 1960 and collects only sanitary waste.  
15 Storm water in the Separated System area is collected separately through the  
16 Municipal Separated Storm Sewer System ("MS4") owned by the City and  
17 discharged directly to nearby rivers and streams. Petitioner's Attachment JAW-2  
18 is a map of Marion County that describes the general location of the Combined  
19 System (yellow area) and the Separated System (purple area). The wastewater  
20 collection system includes approximately 72,000 manholes, approximately 60  
21 siphons for river/stream crossings, and over 3,200 miles of pipe that ranges in  
22 diameter from 2 inches to 144 inches. The Wastewater System is primarily a

1 gravity flow system with approximately 265 lift stations in areas where the  
2 elevation dictates a pumping requirement.

3 **Q17. PLEASE BRIEFLY DESCRIBE THE WASTEWATER SYSTEM'S**  
4 **TREATMENT FACILITIES.**

5 A17. Wastewater collected by the Wastewater System is transported to the Belmont  
6 Advanced Wastewater Treatment Plant ("AWTP"), and the Southport AWTP for  
7 treatment. The Belmont and Southport AWTPs provide preliminary treatment,  
8 primary clarification, and biological treatment, followed by final clarification,  
9 effluent filtration and disinfection, prior to discharging the effluent to the White  
10 River through permitted outfalls. Solids are removed at various stages during the  
11 treatment process and consolidated at the Belmont AWTP for de-watering and  
12 disposal. The Belmont AWTP was originally placed in service in 1924 as a  
13 primary clarification plant. The Belmont AWTP has been upgraded numerous  
14 times over the years to increase its capacity and add secondary and tertiary  
15 treatment processes. A significant expansion of the Belmont AWTP was  
16 completed in 2012 that increased the secondary treatment capacities for peak day  
17 flows up to 300 million gallons per day. The Southport AWTP was originally  
18 designed as a secondary treatment plant and was first placed into service in 1966.  
19 The Southport plant was upgraded during the 1970s and 1980s to add advanced  
20 treatment facilities and expand peak day capacity to 150 million gallons per day.  
21 In 2016, a significant expansion of the Southport AWTP was completed that  
22 increased peak day design capacity of the plant to 250 million gallons per day to  
23 accommodate future flows from the Deep Rock Tunnel System.

1 **Q18. PLEASE DESCRIBE THE PORTIONS OF THE DEEP ROCK TUNNEL**  
2 **SYSTEM THAT HAVE BEEN PLACED IN SERVICE AND THE**  
3 **OPERATIONS OF THAT SYSTEM.**

4 A18. In December 2017, the first 10 miles of the Deep Rock Tunnel System were  
5 placed in service along with the Tunnel Pump Station. As illustrated in  
6 Petitioner's Attachment JAW-3, the Deep Rock Tunnel Connector segment  
7 (approximately eight miles) and Eagle Creek Deep Tunnel segment  
8 (approximately two miles) are now in service and capturing CSOs during local  
9 rain events through four drop shaft structures and from six CSO structures (CSO-  
10 008, CSO-117, CSO-118, CSO-032, CSO-011, CSO-223). Those tunnel  
11 segments have a storage capacity of 90 million gallons. Once the captured CSO  
12 flows are in the tunnel system, they move by gravity southward to the Tunnel  
13 Pump Station located at the Southport AWTP. The Tunnel Pump Station includes  
14 four 30 MGD pumps that are used to de-water the tunnel system over several  
15 hours or days by lifting the captured volume over 250 feet to the ground surface  
16 for processing at the Southport AWTP.

17 **Q19. HOW MANY GALLONS OF CSOs HAVE BEEN CAPTURED AND**  
18 **TREATED SO FAR?**

19 A19. Since start-up in December 2017, the initial 10 miles of the Deep Rock Tunnel  
20 System has already captured over 500 million gallons of CSO discharges that  
21 otherwise would have entered the White River or Eagle Creek.

22 **Q20. WHEN WILL ADDITIONAL SEGMENTS OF THE TUNNEL BE**  
23 **PLACED IN SERVICE?**

1 A20. The next segments of the tunnel, the White River Tunnel and the Lower Pogues  
2 Run Tunnel, are anticipated to be placed into service by year-end 2021.

3 **Q21. OTHER THAN CONTINUED CONSTRUCTION OF THE DEEP ROCK**  
4 **TUNNEL SYSTEM, DOES CWA PLAN TO MAKE INVESTMENTS IN**  
5 **OTHER AREAS OF ITS COLLECTION SYSTEM?**

6 A21. Yes. Like many U.S. wastewater systems, portions of the CWA Wastewater  
7 System are over 100 years old and require significant investment to ensure the  
8 entire system continues to provide safe and reliable services in the future. For  
9 example, many miles of the collection system were constructed of brick and clay  
10 tile materials, which eventually need to be replaced, or more often relined, to re-  
11 establish the structural integrity of the piping systems. This was exemplified by  
12 two high profile brick sewer and manhole failures that occurred in downtown  
13 Indianapolis last July. Accordingly, CWA plans to invest approximately \$18  
14 million annually to meet priority needs of the collection system during the three-  
15 year period beginning August 2019 and ending July 2022 (“Capital Investment  
16 Requirements Period”). This is the period during which CWA assumes the rates  
17 approved in this case will be in effect. As the Consent Decree nears completion in  
18 2025 and total capital investment levels drop significantly, our annual investments  
19 in aging infrastructure are expected to increase. I discuss these matters later in  
20 my testimony.

21 **III. WASTEWATER SYSTEM OPERATIONS AND OVERSIGHT**

1 **Q22. WHAT IS THE ROLE OF CITIZENS ENERGY GROUP WITH RESPECT**  
2 **TO THE MANAGEMENT AND OPERATION OF THE WASTEWATER**  
3 **UTILITY OWNED BY CWA?**

4 A22. Pursuant to the Management and Operating Agreement between Citizens Energy  
5 Group and CWA, Citizens Energy Group “may use its employees to perform its  
6 obligations” to manage and operate the Wastewater System. Citizens Energy  
7 Group’s management and operation of the CWA Wastewater System is  
8 comprehensive, and includes activities such as executive management, capital  
9 planning, engineering, operations, environmental stewardship, finance,  
10 accounting, human resources, legal and other corporate support service functions.  
11 Petitioner’s witness Sabine E. Karner discusses in her testimony how Citizens  
12 Energy Group assigns and allocates its costs to CWA and the other utilities and  
13 businesses responsible for those costs.

14 **Q23. HAVE ANY MAJOR CHANGES OCCURRED RECENTLY REGARDING**  
15 **THE DAY-TO-DAY OPERATIONS OF THE WASTEWATER SYSTEM?**

16 A23. Yes. As previously mentioned, the long-term Suez Agreement expired on  
17 January 1, 2017, and all operations and maintenance functions for the Wastewater  
18 System transitioned from Suez to Citizens Energy Group. During this insourcing  
19 process, Citizens Energy Group hired over 155 new employees, mostly from  
20 Suez, to operate the system. The insourcing process was a significant event and  
21 major milestone for our entire organization.

22 **Q24. PLEASE DESCRIBE SUEZ’S OPERATING HISTORY WITH THE**  
23 **WASTEWATER SYSTEM.**

1 A24. For several years prior to the 2011 acquisition, Suez (then United Water) provided  
2 day-to-day operation and maintenance services to the City and its Sanitary  
3 District for the Wastewater System. Suez continued to provide those same  
4 services to CWA following the acquisition, with direct oversight by Citizens  
5 Energy Group personnel. Suez's responsibilities included, among other things,  
6 operating and maintaining the Southport and Belmont AWTPs to ensure the final  
7 effluent complies with all applicable federal and state laws and environmental  
8 permits; operating and maintaining over 265 lift stations and 3,200 miles of  
9 collection system piping, maximizing treatment volumes and collection system  
10 capacity; minimizing odors; managing data; maintaining records; and performing  
11 various other functions.

12 **Q25. WHY WAS THE OPERATING AGREEMENT WITH SUEZ ALLOWED**  
13 **TO EXPIRE AND NOT EXTENDED?**

14 A25. The management and operation of utility systems is a longstanding core  
15 competency for Citizens Energy Group and our employees. While new to the  
16 wastewater industry in 2011, our management team worked closely with Suez  
17 personnel following the transition to fully understand the specific day-to-day  
18 operations and maintenance requirements of the utility. During this process, our  
19 management team gained additional knowledge and experience that allowed  
20 Citizens Energy Group to step in and directly operate the system when the Suez  
21 Agreement expired. Again, leveraging Citizens Energy Group's experience and  
22 proven track record as a successful utility operator for the benefit of all CWA  
23 customers was a primary objective at the time of the acquisition. Even in a good

1 contract-operator situation, like we had with Suez, the relationship is governed by  
2 a contract and the interests of the owner and operator are difficult to fully align.  
3 By being both the owner and operator, Citizens Energy Group is now able to take  
4 a holistic and long-term approach in managing and improving the Wastewater  
5 System.

6 **Q26. PLEASE DESCRIBE THE INSOURCING EVALUATION AND**  
7 **DECISION PROCESS IN MORE DETAIL.**

8 A26. The evaluation process started approximately two years prior to the January 1,  
9 2017 Suez Agreement expiration date. Citizens Energy Group evaluated various  
10 options regarding the operation of the Wastewater System. The two primary  
11 options included: 1) a contract extension with Suez; and 2) direct operation by  
12 Citizens Energy Group employees (i.e., insourcing). The process was open,  
13 interactive and transparent between Citizens Energy Group and Suez. Ultimately,  
14 Citizens Energy Group concluded that direct operation and insourcing would  
15 allow Citizens Energy Group to reduce CWA's operating costs, improve system  
16 performance and benefit CWA customers long-term.

17 **Q27. PLEASE DESCRIBE THE INSOURCING PROCESS.**

18 A27. Many insourcing activities took place during the six-month period leading up to  
19 the January 1, 2017 transition date. Citizens Energy Group planned extensively  
20 for the transition and met with Suez employees on multiple occasions to make the  
21 transition as smooth as possible for the new employees. Every Suez employee  
22 had the opportunity to apply for a position with Citizens Energy Group and be  
23 interviewed. While some Suez employees chose to retire or pursue other



1 opportunities, the vast majority (over 155 employees) secured positions with  
2 Citizens Energy Group in roles similar to what they had with Suez. The current  
3 wastewater management team includes a combination of both Citizens Energy  
4 Group employees and former Suez employees. The transition process also  
5 included the assignment or negotiation of over 200 new vendor/supplier  
6 agreements related to system operations and the negotiation of a new bargaining  
7 agreement between Citizens Energy Group and the American Federation of State,  
8 County and Municipal Employees (“AFSCME”), which has represented the  
9 wastewater bargaining unit for many years.

10 **Q28. HAS THE INSOURCING STRATEGY BEEN SUCCESSFUL?**

11 A28. Yes, without a doubt. All of Citizens Energy Group’s objectives for insourcing  
12 have been met and continue to be achieved. Ownership and operation of the  
13 system have been aligned, process improvements have been implemented, and  
14 cost savings have been realized. The following table illustrates that system direct  
15 O&M costs (including payroll taxes and excluding Shared Service allocations) for  
16 the Test Year (12-month period ending May 2018) are approximately \$6.8 million  
17 lower than FY16 direct O&M costs, which is the last full fiscal year of Suez  
18 management. This represents an 11% reduction in direct O&M costs for the  
19 Wastewater System.

Direct O&M Costs	FY16	Test Year
System Management	Suez	CWA
Direct O&M Costs (\$ Million/yr)	\$61.45	\$54.65
Direct O&M Cost Reduction (\$ Million/yr)	NA	\$6.8
Direct O&M Cost Reduction (%)	NA	11%

1 The insourcing initiative included the addition of several full-time equivalents  
2 (“FTEs”) within Shared Services to support increased administrative functions  
3 related to wastewater such as purchasing, accounts payable, information  
4 technology, human resources, environmental, lab services and legal. While the  
5 direct costs for the FTEs and administrative functions are not tracked directly, the  
6 annual cost impact is estimated to be \$2.6 million. Subtracting this amount from  
7 the Direct O&M Cost Reduction noted above, results in an overall O&M cost  
8 reduction of approximately \$4.2 million per year.

9 **Q29. HOW WERE THOSE COST SAVINGS ACHIEVED?**

10 A29. The cost savings were achieved in a variety of ways, including effective  
11 management and planning by our leadership team, a productive and efficient  
12 Citizens Energy Group workforce, elimination of Suez management fees and  
13 several process and efficiency improvements. I discuss some of the process  
14 improvements that contributed to those savings in more detail below.

15 **Q30. PLEASE DESCRIBE SOME OF THE PROCESS IMPROVEMENTS**  
16 **THAT HAVE BEEN ACHIEVED BY CITIZENS ENERGY GROUP**  
17 **AFTER INSOURCING.**

18 A30. One area of improvement and savings since FY16 relates to the more efficient  
19 management and disposal of solids. The following table illustrates that Citizens  
20 Energy Group has reduced unit cost (\$/dry-ton) for solids disposal for the Test  
21 Year by 20% compared to FY16.

Solids Disposal	FY16	Test Year
Solids Disposal Cost (\$/dry-ton)	\$82	\$66
Unit Cost Reduction (%)	NA	20%

**Q31. HOW WAS CITIZENS ENERGY GROUP ABLE TO REDUCE COSTS FOR SOLIDS DISPOSAL?**

A31. Cost savings were achieved in several ways, including a reduction of moisture content in the solids prior to incineration and improved operation and availability of the incinerators. These improvements allowed Citizens Energy Group to maximize disposal of solids by incineration and minimize landfill disposal, which is significantly more expensive.

**Q32. PLEASE DESCRIBE HOW A LOWER MOISTURE CONTENT HELPS REDUCE SOLIDS DISPOSAL COSTS.**

A32. The following table illustrates that the average moisture content of processed solids dropped from 79% in FY16 to 74% during the Test Year. This resulted in much dryer solids being sent to the incinerators for disposal. When relatively dry solids (near 75% moisture content) are incinerated, the material can burn with very little supplemental gas use. Conversely, when relatively wet solids (near 80% moisture content) are sent to the incinerator, more natural gas is required to evaporate the additional moisture before the material will burn. Improved management and drying of the solids has reduced natural gas consumption for this process by 50% for the Test Year compared to FY16.

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Solids Dewatering and Gas Use	FY16	Test Year
Solids Moisture Content	79%	74%
Solids Dry Content	21%	26%
Natural Gas Use (Dtherm/Dry Ton)	13.3	6.6
Natural Gas Reduction	NA	50%

**Q33. PLEASE EXPLAIN WHY INCINERATOR PRODUCTION RATES ARE IMPORTANT FOR COST EFFECTIVE SOLIDS DISPOSAL AND DESCRIBE IMPROVEMENTS ACHIEVED IN THIS AREA.**

A33. Considering landfill disposal costs are significantly more expensive than incinerator disposal costs, Citizens Energy Group strives to improve incinerator production rates and minimize unplanned outages in order to reduce total operating costs for the benefit of our customers. As outlined below, incinerator production rates (dry-ton/hr) for the Test Year improved by approximately 62% compared to FY16.

Incinerator Production Rate	FY16	Test Year
Solids Incinerated (dry-ton/hr)	1.37	2.22
Improvement (%)	NA	62%

Several factors contributed to this improvement including, but not limited to, improved incinerator availability, reduced unplanned outages, enhanced operator training, upgraded system controls and revised maintenance practices.

**Q34. HAVE PROCESS IMPROVEMENTS BEEN ACHIEVED IN THE WASTEWATER COLLECTION SYSTEM AS WELL?**

1 A34. Yes. In 2017, Citizens Energy Group implemented a new Acoustic Condition  
2 Evaluation (“ACE”) program that has improved the inspection, cleaning and  
3 repair process for collection system piping less than 18-inches in diameter, which  
4 is approximately 80% of the entire collection system. Rather than cleaning this  
5 large portion of the collection system over a 10-year cycle, the ACE program  
6 allows Citizens Energy Group to utilize acoustic technology to evaluate the  
7 condition of collection system pipe from manhole-to-manhole and determine if  
8 that particular segment is clean, dirty and/or damaged. The condition of the pipe  
9 is documented and appropriate work orders are then generated and prioritized  
10 based on the inspection results. The initial results of the ACE program indicate  
11 that approximately 80% of ACE inspected pipe segments (scores 6-10) are clean,  
12 in good condition and require no further action, and approximately 20% of ACE  
13 inspected pipe segments (scores 0-5) require additional attention. Any pipe  
14 segment that scores 0-5 is cleaned and reassessed with ACE. If the follow-up  
15 ACE inspection score is still 0-5, the pipe segment is then televised to determine  
16 specific maintenance requirements. In addition, approximately 5% of ACE  
17 inspected pipe segments that score 6-10 are randomly selected and televised as a  
18 quality control measure for the ACE program. Overall, the ACE program has  
19 improved the efficiency of the collection system inspection and maintenance  
20 process by allowing Citizens Energy Group personnel to better direct cleaning,  
21 maintenance and repair resources to confirmed areas of need rather than cleaning  
22 the entire system regardless of need.

1 **Q35. ARE OTHER PROCESS IMPROVEMENTS BEING IMPLEMENTED**  
2 **FOR THE WASTEWATER SYSTEM?**

3 A.35. Yes. Citizens Energy Group is in the process of consolidating all CWA  
4 wastewater operation and control functions into one Master Control room that  
5 will be located at our Belmont Administration building. The Wastewater Master  
6 Control Room will bring together, for the first time, all the key operating  
7 functions for the utility and allow full visibility and control of the entire system  
8 from a single location. The combined operating functions will include: Belmont  
9 treatment, Southport treatment, solids handling/de-watering, incinerator  
10 operations and collections/lift station management. The new Master Control  
11 Room will improve communication, coordination and efficiencies within these  
12 areas when completed in 2019.

13 **Q36. OTHER THAN COST SAVINGS AND PROCESS IMPROVEMENTS,**  
14 **HAVE THERE BEEN ANY OTHER INDICATIONS THAT THE**  
15 **INSOURCING OF THE DAY-TO-DAY OPERATION OF THE**  
16 **WASTEWATER SYSTEM HAS BEEN SUCCESSFUL?**

17 A36. Yes. The hiring and on-boarding process for over 155 new employees went well  
18 and several employees have shared positive comments regarding their  
19 employment and overall experience with Citizens Energy Group. Training will  
20 continue with this employee group going forward to help reinforce the Citizens  
21 Energy Group culture and our Mission, Vision and Values.

22 **IV. CAPITAL IMPROVEMENT PROGRAM**

1 **Q37. PLEASE GENERALLY DESCRIBE CWA'S CAPITAL PLANNING**  
2 **PROCESS.**

3 A37. Citizens Energy Group uses a cross-functional planning process to establish and  
4 align strategic and operational objectives with capital plans and budgets for CWA.  
5 For the Wastewater System, the capital planning process is focused on providing  
6 safe, reliable and efficient service for our customers and ensuring that our  
7 collection, treatment and discharge systems are in compliance with all applicable  
8 state and federal laws, regulations and permits. The wastewater master planning  
9 and capital planning processes are jointly administered by CP&E and Water  
10 Operations, with input from consultants, technical experts and key stakeholders.  
11 The process includes reviews of system operations and performance data; asset  
12 management and infrastructure condition assessments; and system load forecasts.  
13 Asset and operational assessments are conducted periodically for major facilities  
14 to evaluate equipment reliability and operational risk; and to identify short and  
15 long-term needs. This information, as available, is evaluated and prioritized on a  
16 system-wide basis and budget estimates are developed for priority projects as part  
17 of the five-year capital improvement program ("CIP") for the Wastewater System.

18 **Q38. PLEASE FURTHER DESCRIBE THE ROLE THAT WATER**  
19 **OPERATIONS PLAYS IN THE CAPITAL PLANNING PROCESS FOR**  
20 **CWA.**

21 A38. Water Operations has several roles in the capital planning process for CWA. One  
22 role is to help develop master plans for the Wastewater System, such as the  
23 Marion County Sanitary Sewer Master Plan ("SSMP"), which helps guide capital

1 planning for system rehabilitation and growth. Another role is to identify  
2 Wastewater System equipment and assets that need to be upgraded or replaced  
3 within one to five years to maintain safe, efficient and reliable service, satisfy  
4 compliance requirements, address operational issues or optimize system  
5 performance. Water Operations is responsible for monitoring and assessing  
6 collection system performance and working with CP&E to address system  
7 deficiencies. Water Operations uses a number of tools and methods to assess  
8 condition and support recommendations for improvements in the collection  
9 system. These methods include, but are not limited to, visual inspection, acoustic  
10 inspection (or ACE) and video inspection. Results from these inspection methods  
11 are recorded in InfoMaster, which is an asset management / system renewal  
12 application, along with GIS based asset information such as material type, age,  
13 and maintenance history. InfoMaster uses this information and algorithms to help  
14 prioritize cleaning, inspection and renewal activity. As these tools are refined and  
15 data is collected, system renewal will be executed by prioritizing the areas of  
16 greatest need using InfoMaster as a primary guide.

17 **Q39. WHAT IS THE INSPECTION AND CLEANING CYCLE FOR THE**  
18 **COLLECTION SYSTEM?**

19 A39. Citizens Energy Group completes planned inspections and cleaning of the various  
20 components of the collection system on a 10-year average cycle. At times, this  
21 inspection process identifies areas of the system that require additional or more  
22 frequent maintenance and/or repairs. If planned repairs are required, additional  
23 inspections may be completed by our CP&E group to further determine repair



1 requirements, prepare cost estimates and to prioritize the work. Following two  
2 high profile sewer failure events last July in downtown Indianapolis, Citizens  
3 Energy Group implemented a proactive Rapid Condition Assessment ("RCA")  
4 process and inspected approximately 459 manholes and 500 sewer line segments  
5 in the Mile Square Area within a 10-day time period. The results of the RCA  
6 inspection process were generally positive with no urgent repairs identified and  
7 only 6 planned repairs identified. Considering the high traffic concentration and  
8 disruptive nature of sewer failures in downtown, Citizens Energy Group will  
9 complete an inspection of the Mile Square Area (similar to the RCA) every 5  
10 years in addition to the normal inspection and cleaning cycle. That process update  
11 will be included in our Capacity Management Operations and Maintenance  
12 ("CMOM") program, as more fully described by Petitioner's witness Mark C.  
13 Jacob. The CMOM is updated periodically and was last submitted to the Indiana  
14 Department of Environmental Management ("IDEM") on December 19, 2013.

15 **Q40. WHAT IS CWA'S PROJECTED CAPITAL INVESTMENT LEVEL**  
16 **DURING THE CAPITAL INVESTMENT REQUIREMENTS PERIOD?**

17 A40. The projected capital investment level is approximately \$196 million per year (on  
18 average) during the Capital Investment Requirements Period, as described in Mr.  
19 Jacob's testimony and Petitioner's Attachment MCJ-4. This amount includes  
20 approximately \$152 million per year (on average) for Consent Decree projects  
21 and approximately \$44 million per year (on average) for non-Consent Decree  
22 projects. The projected capital investment level is sponsored by Mr. Jacob  
23 because CP&E ultimately is responsible for the design, estimation, and

1 implementation of the projects selected through the collaborative capital planning  
2 process. However, given my knowledge of the Wastewater System and  
3 involvement in the capital planning process, I provide additional support for the  
4 projected capital investment level in general and for the amount spent on non-  
5 Consent Decree projects in particular.

6 **Q41. HOW DOES THE PROJECTED CAPITAL INVESTMENT LEVEL FOR**  
7 **NON-CONSENT DECREE PROJECTS COMPARE TO ACTUAL**  
8 **CAPITAL INVESTMENTS FOR NON-CONSENT DECREE PROJECTS**  
9 **DURING THE TEST YEAR?**

10 A41. As described in Mr. Jacob's testimony and Petitioner's Attachment MCJ-3,  
11 approximately \$51 million was invested in non-Consent Decree projects during  
12 the Test Year and approximately \$44 million per year is projected for non-  
13 Consent Decree projects in this proceeding. The reduction in non-Consent Decree  
14 investments over the next three years (compared to the Test Year) is driven, to  
15 some degree, by our efforts to optimize and balance other capital spending while  
16 Consent Decree investments are at peak levels and still maintain system reliability  
17 and affordability. However, as total capital investment levels and Consent Decree  
18 spending start to decrease in FY2023, non-Consent Decree projects and spending  
19 will increase to address existing long-term infrastructure needs.

20 **Q42. OVERALL, DO YOU BELIEVE THE LEVEL OF CAPITAL**  
21 **INVESTMENTS DURING THE CAPITAL INVESTMENT**  
22 **REQUIREMENTS PERIOD PROJECTED BY MR. JACOB IS**

1           **REASONABLE AND NECESSARY GIVEN THE NEEDS OF THE**  
2           **WASTEWATER SYSTEM?**

3    A42.   Yes, I believe the projected annual average capital investment requirement level  
4           of approximately \$196 million per year for the Wastewater System is necessary  
5           and consistent with the overall needs of the system while Consent Decree  
6           investment requirements remain high. I also believe the projected capital  
7           investment requirement level is necessary for the continued delivery of safe and  
8           reliable service to our customers and improvement of the overall condition of the  
9           system in the future. Furthermore, I believe that non-Consent Decree spending  
10          will need to increase in four to five years as Consent Decree spending decreases  
11          significantly, in order to address existing infrastructure needs and minimize  
12          unplanned outages and emergency repairs. Collection system rehabilitation, such  
13          as sewer pipe lining, will be a specific area of increased focus and investment  
14          post-Consent Decree to minimize sewer failures, unplanned emergency repair  
15          costs and traffic disruptions.

16    **Q43. PLEASE EXPLAIN WHY AGING INFRASTRUCTURE INVESTMENTS**  
17    **NEED TO INCREASE AS CONSENT DECREE SPENDING DECLINES?**

18    A43.   As explained in more detail by Mr. Jacob, CWA's non-Consent Decree system  
19           investment is near the bottom quartile of utilities and the amount of sewer pipes  
20           ranked as high priority for replacement far exceeds the amount that are replaced  
21           annually. The two high profile sewer failures last July in downtown Indianapolis  
22           further illustrate the need for continued and increased investment in aging  
23           infrastructure. Both events took place in busy intersections and involved the

1 failure of brick sewer and manhole structures built in the early 1900s. In order to  
2 minimize similar events in the future, CWA must continue to invest to replace or  
3 extend the life of older components of the system. As Consent Decree spending  
4 starts to decline over the next four to five years, planned extensions and  
5 replacements (“E&R”) investments can shift more toward aging infrastructure  
6 needs while still balancing customer affordability.

7 **V. OTHER MATTERS**

8 **Q44. PLEASE DESCRIBE THE SATELLITE CUSTOMER SUBSIDY.**

9 A44. In Cause No. 44305, which was CWA’s first rate case, the Commission found that  
10 the Satellite Customers were being subsidized by CWA’s retail customers. In that  
11 case, the Commission directed CWA to “pursue all possible means to renegotiate  
12 the Satellite Customer contracts to provide for the recovery of the cost of service  
13 from those customers.” (Order at p. 35). In CWA’s subsequent rate case (Cause  
14 No. 44685), CWA requested a subdocket to help facilitate resolution of this cost  
15 recovery matter, which the Commission granted with the establishment of Cause  
16 No. 44685-S1 (“S1”).

17 **Q45. WAS A RESOLUTION IN S1 REACHED TO ELIMINATE THE**  
18 **SATELLITE CUSTOMER SUBSIDY OVER A PERIOD OF YEARS?**

19 A.45. Yes. After months of negotiations, CWA reached a Settlement Agreement with  
20 Lawrence, the Ben Davis Conservancy District, and Greenwood, which were the  
21 Satellite Customers that intervened in the case. That Settlement Agreement was  
22 approved by Commission Order, which ultimately resulted in: (a) agreement on a  
23 revised Satellite Customer Subsidy amount of \$9,909,400; (b) establishment of a

1 uniform cost of service based wholesale rate, set forth in Sewer Rate No. 6; and  
2 (c) six of the seven Satellite Customers being subject to Sewer Rate No. 6 by  
3 January 1, 2019. Four of the Satellite Customers, Beech Grove, Lawrence, the  
4 Ben Davis Conservancy District, and Greenwood, were paying below cost of  
5 service rates under their current contracts, which was the basis for the Satellite  
6 Customer subsidy. The current contracts for those communities will now  
7 terminate effective January 1, 2019, and those communities will be on Sewer Rate  
8 No. 6, subject to Special Contracts that will phase them into full cost of service  
9 rates over a succeeding ten-year period. At the end of that period, the Satellite  
10 Customer Subsidy will be eliminated. The other Satellite Customers, HSE, Tri-  
11 County Conservancy District, and Whitestown, were paying above-cost of service  
12 rates under their current contracts. Of those communities, HSE and Tri-County  
13 Conservancy District already terminated their contracts and moved to Sewer Rate  
14 No. 6 upon issuance of the Commission's Order in S1, which resulted in a rate  
15 decrease for them. The Commission established a separate subdocket, Cause No.  
16 44685-S2 ("S2"), by Docket Entry on May 16, 2017, to review the agreement for  
17 wastewater treatment and disposal with Whitestown and for review of cost  
18 allocation issues related to that agreement.

19 **Q46. WHAT WAS THE OUTCOME OF S2?**

20 A.46. On March 27, 2018, CWA and Whitestown filed in the S2 subdocket a Joint  
21 Motion to Dismiss Without Prejudice. The Commission granted the relief  
22 requested in the Joint Motion by Docket Entry on May 1, 2018, thereby leaving  
23 Whitestown's current contract in effect. Whitestown does not send any flows to

1 CWA and as a result, does not pay anything to CWA. However, Whitestown will  
2 pay CWA's Sewer Rate No. 6 tariff rate if and when it sends any flows to CWA.

3 **Q47. IS THE CONTINUATION OF WHITESTOWN'S CURRENT CONTRACT**  
4 **REASONABLE UNDER THESE CIRCUMSTANCES?**

5 A47. Yes, I believe so. The Whitestown situation is very different from that of the  
6 other Satellite Customers in that Whitestown has its own treatment plant and has  
7 not sent any flows to CWA since 2015. As a result, flows from Whitestown were  
8 not factored into CWA's analysis of the amount of the Satellite Customer Subsidy  
9 in its case-in-chief in S1 to determine the uniform rate in Sewer Rate No. 6 that  
10 Satellite Customers would pay to eliminate the Satellite Customer Subsidy.  
11 Therefore, the continuation of the status quo under Whitestown's current contract  
12 has no impact on the elimination of the Satellite Customer Subsidy and does not  
13 present any cost allocation issues, which was the primary purpose of renegotiation  
14 of the Satellite Customer contracts and the creation of Sewer Rate No. 6.

15 **VI. CONCLUSION**

16 **Q48. PLEASE SUMMARIZE YOUR TESTIMONY.**

17 A48. Citizens Energy Group remains committed to providing safe, reliable and  
18 affordable service to CWA's customers through effective management, efficient  
19 operations, system improvements and cost control. Over the last year, significant  
20 milestones have been achieved that will significantly benefit CWA's customers  
21 and the entire Central Indiana Community long-term. The successful insourcing  
22 of all wastewater utility operations on January 1, 2017 has reduced the Test Year  
23 annual direct operating costs by approximately \$6.8 million compared to fiscal

1 year 2016, resulting in an overall O&M cost reduction of approximately \$4.2  
2 million per year. The successful start-up of the first 10 miles of the Deep Rock  
3 Tunnel System is also a major milestone for Citizens Energy Group and the entire  
4 community. The first 10-mile segment of the Deep Rock Tunnel System has  
5 captured over 500 million gallons of overflow volumes year to date and is a major  
6 step toward the goal of eliminating 95 to 97% of sewer overflow volumes by the  
7 year 2025, as required by the Consent Decree.

8 **Q49. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

9 A49. Yes.

**VERIFICATION**

The undersigned affirms under the penalties for perjury that the foregoing testimony is true to the best of his knowledge, information and belief.

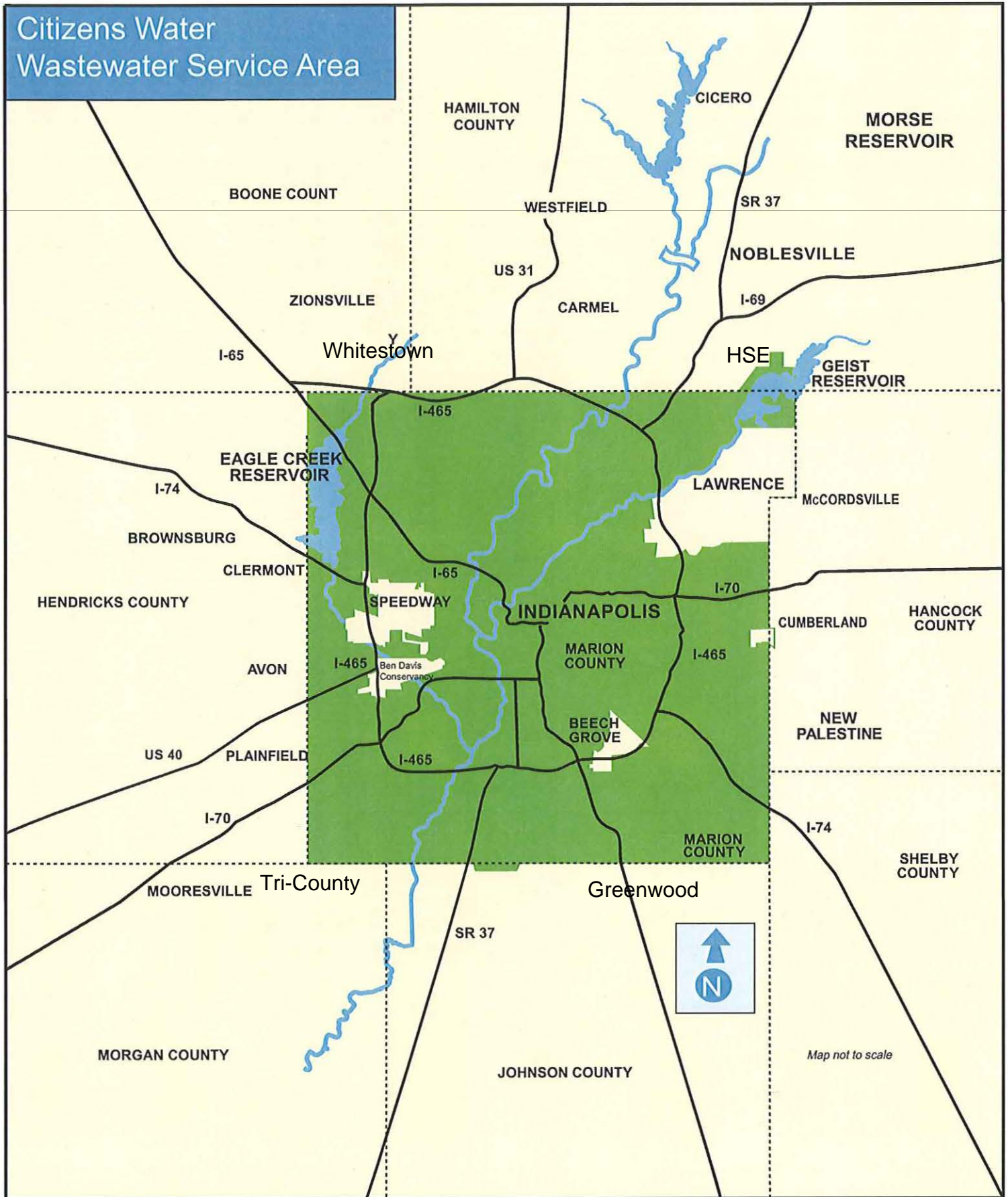
A handwritten signature in cursive script, appearing to read "Jeffrey A. Willman".

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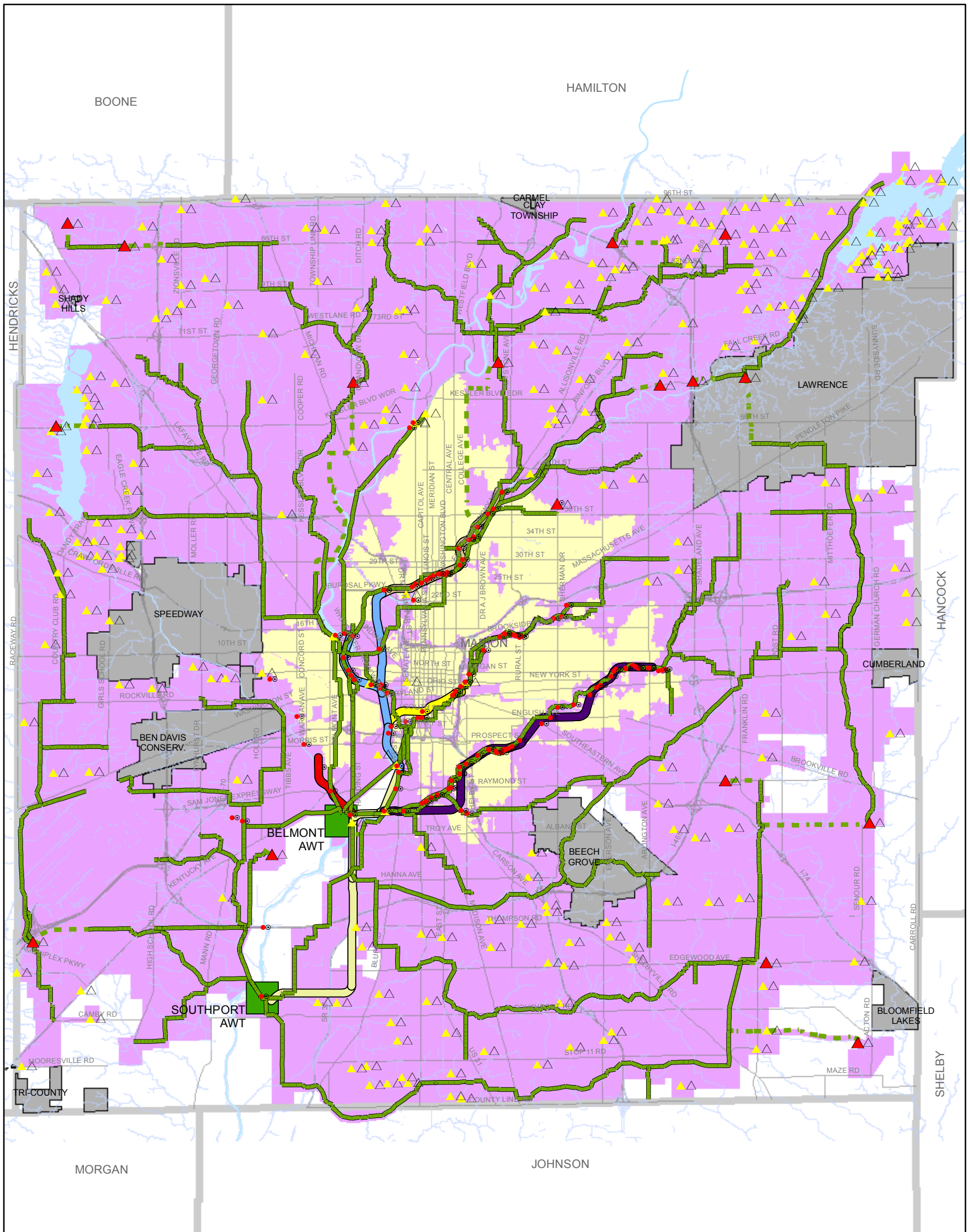
Jeffrey A. Willman



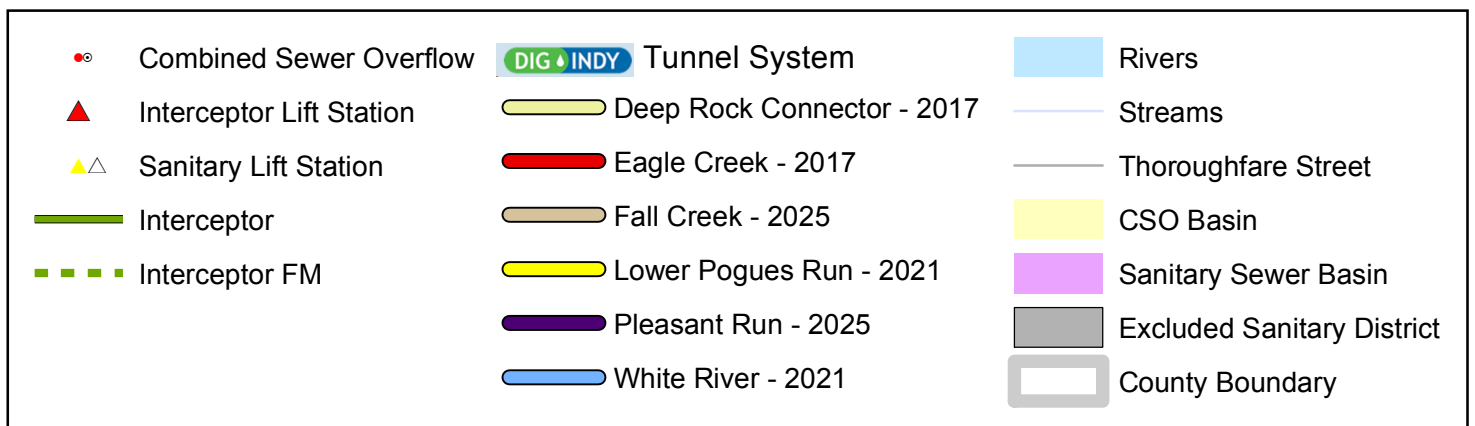
ATTACHMENT JAW-1



# Citizens Wastewater Service Area



0 0.5 1 2 Miles





Attachment JAW-3

Phase 1 Deep Rock Tunnel Storage System In-Service

