
EXHIBIT V

TESTIMONY OF MARK J. BUBEL, SR.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2021-3024267

AQUA STATEMENT NO. 2

**DIRECT TESTIMONY OF
MARK J. BUBEL, SR.**

**With Regard To
Description of the System
Environmental Compliance
Integration into Current Operations
Technical Fitness
Public Benefits of the Transaction**

May 2021

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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Mark J. Bubel, Sr. My business address is 762 West Lancaster Avenue,
4 Bryn Mawr, Pennsylvania 19010.

5
6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by Aqua Pennsylvania, Inc., (“Aqua PA”) as a Project Engineer III.

8
9 **Q. Please provide a brief description of your education and work experience.**

10 A. I received a Bachelor’s of Science Degree (B.S.) in Civil Engineering in 1980 from
11 Lehigh University and a Master’s Degree in Civil Engineering (M.C.E.) with a
12 concentration in Environmental Engineering in 1983 from Villanova University. I have
13 worked in various engineering roles and have over 40 years of experience in
14 environmental engineering related to municipal and industrial wastewater treatment and
15 operations. I have worked at Aqua America since 2003 in roles related to wastewater
16 treatment facilities including planning, design, start-up, and operational troubleshooting. I
17 am a Registered Professional Engineer in Pennsylvania, Delaware, Maryland, North
18 Carolina, and Florida. I am also a Licensed Water and Wastewater Operator in
19 Pennsylvania.

20
21 **Q. Have you previously testified before the Pennsylvania Public Utility Commission**
22 **(“PUC” or the “Commission”)?**

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1 A. Yes. I provided testimony in Aqua Pennsylvania Wastewater, Inc.’s (“Aqua” or the
2 “Company”) New Garden, Limerick, East Bradford, Cheltenham, East Norriton, and
3 Delaware County Regional Water Quality Control Authority Section 1329 Application
4 proceedings at Docket Nos. A-2016-2580061, A-2017-2605434, A-2018-3001582, A-
5 2019-3008491, A-2019-3009052, and A-2019-3015173, respectively. I also provided
6 testimony in Aqua PA and Aqua’s most recent base rate case proceeding at Docket Nos.
7 R-2018-3003558 and R-2018-3003561

8
9 **Q. What is the purpose of your testimony?**

10 A. The purpose of my testimony is as follows: (1) to provide a general description of the
11 acquired system; (2) to explain how the acquired system will be integrated into Aqua’s
12 operations; (3) to describe Aqua’s technical fitness to run the system, and (4) to discuss
13 the benefits of the transaction.

14
15 **Q. Are you sponsoring any Exhibits with the Company’s filing?**

16 A. No.

17
18 **II. OVERVIEW OF AQUA AND THE LMT SYSTEM**

19 **Q. Please provide a general overview of Aqua.**

20 A. Aqua, a subsidiary of Aqua PA, is engaged in the business of collecting, treating,
21 transporting, and disposing of wastewater for the public. Aqua serves approximately
22 45,000 customers in Adams, Bucks, Carbon, Chester, Clarion, Clearfield, Delaware,
23 Lackawanna, Luzerne, Monroe, Montgomery, Pike, Schuylkill, Venango, and Wyoming

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1 Counties. Aqua operates 39 wastewater treatment plants (“WWTP”) throughout the
2 Commonwealth of Pennsylvania, and 24 systems of Aqua’s Southeast Division are in
3 proximity to Lower Makefield Township (“LMT” or the “Township”) allowing for
4 operational efficiencies. Aqua, and its parent company Aqua PA, have approximately
5 600 employees bringing extensive expertise in providing water and wastewater service to
6 citizens of Pennsylvania.

7
8 **Q. Please provide a description of the LMT Sanitary Wastewater Collection System**
9 **(the “System”).**

10 A. The Township is located in the southern part of Bucks County, Pennsylvania and the
11 majority of the Township is served by a public sewer system. The LMT System is a
12 collection and conveyance system owned by LMT and operated by the Municipal
13 Authority of the Township of Lower Makefield (“LTMSA”) that collects wastewater
14 from within LMT and conveys wastewater via gravity and interceptor sewers, low
15 pressure sewer systems, 14 pump stations, and 8 wastewater metering chambers to a
16 WWTP owned by the Municipal Authority of the Borough of Morrisville (“MABM”) and
17 the City of Philadelphia Water Department’s (“PWD”) Northeast Water Pollution Control
18 Plant (“NEWPCP”). Flow is conveyed to PWD’s NEWPCP via interceptors owned by
19 Bucks County Water and Sewer Authority (“BCWSA”).

20 Lower Makefield Township has two major sanitary sewer service areas. The first
21 major service area is the Neshaminy Interceptor Service Area. The sub-areas within the
22 Neshaminy Interceptor are the Core Creek Interceptor, Middletown Township, Falls
23 Township Service Area and Falls Township Contract Area service areas. The wastewater

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1 generated within this major service area is conveyed and discharged into the Neshaminy
2 Interceptor. From the Neshaminy Interceptor, the wastewater flows to PWD's NEWPCP
3 for treatment and disposal under National Pollution Discharge Elimination System
4 ("NPDES") Permit No. PA0026689. The sanitary sewer lines within LMT are owned by
5 LMT with the exception of the Falls Township Service Area where the sewer lines are
6 owned and operated by the Township of Falls Authority ("Falls Authority"). Also,
7 certain flow from the Newtown Joint Municipal Authority is transported to LMT's Core
8 Creek Interceptor which is then conveyed to BCWSA and ultimately treated at PWD's
9 NEWPCP. The conveyance sanitary sewer lines of LMT flow to metering chambers
10 which are owned and operated by BCWSA.

11 The second major service area is the MABM Wastewater Treatment Plant Service
12 Area. This service area consists of two sub-areas, Yardley Borough ("Yardley") Service
13 Area and Morrisville Borough Service Area. The wastewater generated by this service
14 area is conveyed to the Morrisville Borough Wastewater Treatment Plant for treatment
15 and disposal under NPDES Permit No. PA0026701. Certain drainage areas located
16 within LMT send flows into the Borough of Yardley ("Yardley") and these flows are
17 ultimately pumped back into LMT and treated at the MABM. LMTSA collects
18 wastewater from a small number of residents in Yardley that are on the border between
19 Yardley and LMT. These residents in Yardley are customers of Yardley and not
20 customers of LMT, but the residents are connected to the LMT system as described in the
21 November 11, 2015 Sewage Transportation Agreement between LMTSA, LMT, and
22 Yardley Sewer Authority.

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1 The LMT System consists of approximately 150 miles of gravity sewer collection
2 mains and interceptors, 7 miles of force mains, and 1 mile of low-pressure mains. The
3 System also includes 14 pump stations, and 8 metering chambers to measure flow.

4 Description of the System

5 The MABM WWTP provides activated sludge treatment. It includes an aerated
6 grit chamber, influent pump station, and consists of two pure oxygen (UNOX) systems
7 with two (2) sets of secondary clarifiers. One of the two UNOX reactors includes one
8 primary clarifier. Both secondaries feed a tertiary cloth media effluent disc filter system.
9 This self-cleaning filter polishes the effluent in order to meet strict BOD5 and TSS limits
10 for discharge to the Delaware River; disinfection is achieved with chlorine. Plant waste
11 sludge is thickened in a Dissolved Air Flotation (“DAF”) unit and then dewatered with a
12 Belt Filter Press. Dried sludge is lime-stabilized for disposal at a landfill. The MABM
13 WWTP is permitted at an annual average flow of 7.1 million gallons per day (“MGD”)
14 and has a maximum monthly average flow of 8.7 MGD. The 2020 annual average flow
15 was 4.705 MGD and the 3-month maximum average flow was 5.385 MGD. The WWTP
16 is permitted for a maximum organic loading of 20,250 pounds per day (lbs./day)
17 according to the Pennsylvania Department of Environmental Protection (“DEP”) Water
18 Quality Management Permit (“WQM”) provided as Exhibit M1. The NPDES Permit
19 provided as Exhibit N1 notes the organic loading limit as 18,140 lbs./day. The 2020
20 maximum month organic loading was 9,656 lbs./day.

21 The PWD Northeast WWTP is an activated sludge treatment facility that
22 discharges into the Delaware River. The effluent from the plant is disinfected with
23 sodium hypochlorite. The Northeast WWTP is permitted at an annual average flow of

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1 210 MGD and has a design hydraulic capacity of 435 MGD. The 2020 annual average
2 flow was 170.4 MGD and the 3-month maximum average flow was 183.2 MGD. The
3 WWTP is permitted for a maximum organic loading of 350,000 lbs./day. The 2020
4 maximum month organic loading was 249,079 lbs./day.

5 The LMT collection and transmission piping is summarized in the Engineering
6 Assessment included as Exhibit D to the Application.

7
8 **Q. Please provide the elevations for the MABM WWTP, the PWD NEWPCP and the**
9 **Requested Territory.**

10 A. MABM WWTP: elevation generally varies between EL 5 to EL 12.

11 PWD NEWPCP: elevation generally varies between EL 5 to EL 18.

12 Requested Territory: Area elevations vary generally from:

- 13 • EL 176 to EL 286 along the western boundary.
- 14 • EL 16 to EL 176 along the southern boundary.
- 15 • EL 27 to EL 286 along the northern boundary.
- 16 • EL 16 to EL 27 along the eastern boundary.

17
18 **Q. Please state the approximate time of the installation of the component facilities of**
19 **the system.**

20 A. With regard to the approximate time of the original construction, the MABM WWTP was
21 constructed in approximately 1956 and provided basic primary treatment. The plant was
22 upgraded in 1964 and underwent significant plant expansion in 1973 to achieve a plant
23 capacity of 5.6 MGD. In 1986, the plant was expanded to its current rated capacity of 7.1

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1 MGD with a maximum month of 8.7 MGD. The PWD NEWPCP was constructed in
2 1923 and provided basic primary treatment. The plant was upgraded to provide
3 secondary treatment in approximately 1978. The majority of the LMT System was
4 originally constructed in 1966. The System was expanded in the ensuing decades as new
5 developments were added to the System along with additional pump stations. However,
6 the average age of the pipe in the LMT System is approximately 36 years old.

7
8 **Q. Is Aqua planning any capital projects over the next 10 years?**

9 A. Yes. Aqua looked at upgrades to pump stations, force mains, and gravity collection
10 systems based on facility conditions observed, facility age, and safety. Aqua estimates
11 that it will invest approximately \$9.76 million over the next 10 years.

12 Upgrades to pump stations include pump replacement, electrical and mechanical
13 replacement, emergency generator replacement, as well as facilities upgrade. Force main
14 replacement will occur based on pipe age. Gravity collection system pipe rehabilitation
15 and replacement will occur based on an assessment of pipe age and condition. Aqua will
16 work with LMT and the DEP to address the inflow and infiltration (“I&I”) and sanitary
17 sewer overflows (“SSOs”) within the system if they were to occur. There were no
18 reported SSO’s in 2019 or 2020 as reported in the respective Chapter 94 Reports for the
19 respective systems.

20
21 **Q. Do you foresee any other projects that would be required in the immediate future?**

22 A. Replacement and upgrade of facilities will continue beyond Aqua’s 10-year capital plan
23 based on facility age and expected facility life span.

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Q. Please state the actual number of LMT customers by class and gallons treated.

A. LMT has 11,151 customers. Twin homes, apartments, townhouses, duplexes, and condominiums are considered residential customers. Public, parochial and private schools are considered commercial customers in LMT. LMT has no industrial customers.

Service Area	Residential	Commercial	Total
LMT	10,916	235	11,151

The number of gallons treated by customer class for LMT is as follows for the period of January 1, 2020 to December 31, 2020:

Service Area	Residential	Commercial	Total
LMT	614,897,060	39,310,500	654,207,560

Q. Are the acquired LMT customers currently Aqua PA water customers?

A. No. LMT wastewater customers are currently served by Pennsylvania American Water Company, MABM and private wells for water service.

III. ENVIRONMENTAL COMPLIANCE

Q. Does the Application include NPDES permits?

A. Yes, although not part of the LMT System acquisition, the NPDES discharge permits for the MABM WWTP and PWD NEWPCP are included in the Application as Exhibit N1 and N2.

Q. Does the Application include Water Quality Management (“WQM”) Permits?

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1 A. Yes. Although not part of the LMT System acquisition, the WQM Permits for the
2 MABM WWTP, issued in 2010, and the PWD NEWPCP, issued in 2013, are included in
3 the Application as Exhibits M1 and M2.
4

5 **Q. Are Act 537 plans included in the Application?**

6 A. Yes. LMT's current Act 537 plan update is included in the Application as Exhibit P1.
7 The LMT Act 537 plan special study revised and appended from September 2018 is
8 included in the Application as Exhibit P2. The Act 537 Plan for the MABM has been
9 included as Exhibit P3. The Act 537 Plan for the City of Philadelphia has been included
10 as Exhibit P4.
11

12 **Q. Are there any Notices of Violation ("NOV") issued to LMT by the DEP in the last**
13 **five years?**

14 A. Yes. There were 2 NOV's of which we are aware in the last 5 years. The NOV's and
15 narrative reports related to the LMT System are included in the Application as Exhibits
16 O1 and O2. The explanations for the NOV's and corrective actions are included in the
17 narrative reports of the DEP.
18

19 **Q. Were there any other NOV's issued to LMT by the DEP during the last five years?**

20 A. To Aqua's knowledge, the above NOV's are the only ones of record in the last 5 years.
21

22 **Q. Have there been any Consent Assessments of Civil Penalty ("CACP") entered into**
23 **by the Township and the DEP?**

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1 A. No. There are no current CACPs entered into by the Township and the DEP.

2

3 **Q. Please state if there are any current environmental compliance issues for the LMT**
4 **System.**

5 A. LMT did not have any sanitary SSO in 2020 per the Chapter 94 reports submitted by the
6 Township. LMT is currently operating under a Corrective Action Plan (“CAP”)
7 stemming from a settlement agreement between the BCWSA and the DEP related to the
8 Neshaminy Interceptor owned and operated by BCWSA. The CAP and most recent
9 update to the CAP is included in the Application as Exhibit O3. As stated above, LMT
10 sends flows through the Neshaminy Interceptor for ultimate treatment at PWD’s
11 NEWPCP. The purpose of LMT’s CAP, along with all other tributary municipalities to
12 the Neshaminy Interceptor, is to provide an I&I abatement plan and a connection
13 management plan with the goals of reducing flows and reducing the risk of surcharging
14 and SSOs in the Neshaminy Interceptor.

15 The CAP set out goals for I&I reductions along with a planned project timeline.
16 LMT’s most recent update to the CAP provides a schedule for projects completed and
17 planned along with a budgeted amount over the next seven years. LMT developed a
18 Connection Management Plan (“CMP”) which was first approved by DEP in 2015.
19 LMT’s latest CMP was approved by DEP in August 2020.

20 Aqua will continue the work under the CAP and CMP as outlined in LMT’s most
21 recent CAP update included in the Application as Exhibits O3 and O4.

22

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1 **Q. Are there any similar noncompliance issues pending with the United States**
2 **Environmental Protection Agency (“EPA”)?**

3 A. No. The DEP holds primacy over EPA in the Commonwealth of Pennsylvania.

4

5 **Q. Please state the estimated number of future connections for the system for the next 5**
6 **years.**

7 A. The below table provides projected equivalent dwelling units (“EDU”) for the next five
8 years (2021-2025):

	2021	2022	2023	2024	2025	Total
LMT	103	617	399	84	69	1,449

9

10 **Q. Is there present system capacity to meet the demands of current and future**
11 **customers?**

12 A. As part of LMT’s CAP for the Neshaminy Interceptor, LMT provides updates to the
13 CMP to DEP which are approved to provide for additional connections in the system that
14 flow through the Neshaminy Interceptor. Following the Closing of the Proposed
15 Transaction, Aqua will continue the work under the CAP to reduce I&I that flows to the
16 Neshaminy Interceptor to allow for additional connections as approved by the DEP.

17

18 **IV. INTEGRATION OF LMT SYSTEM, TECHNICAL FITNESS AND PUBLIC**
19 **BENEFIT**

20 **Q. Please state how many miles the LMT System is from Aqua’s existing service**
21 **territory.**

22 A. The LMT System’s distance from Aqua’s existing service territory is as follows:

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1

Buyer's Plant	Location	Approximate Distance to LMT (miles)
Peddler's View WWTP	Lahaska, PA	8
Willow Grove Office	Willow Grove, PA	14
Cheltenham System	Cheltenham, PA	15
Bryn Mawr, PA Corporate HQ	Bryn Mawr, PA	27

2

3 **Q. Will the LMT System be physically interconnected with Aqua's system or be**
4 **operated as a standalone system?**

5 A. The LMT System will be operated as a standalone system within Aqua's footprint.

6

7 **Q. Please describe how Aqua will integrate the operation of the LMT System into its**
8 **current operations.**

9 A. The operation of the LMT System will be managed from Aqua's Willow Grove Division
10 office. Management, customer service, regulatory compliance, engineering, financial,
11 and ancillary services will be provided seamlessly from our Southeastern Division
12 headquarters in Bryn Mawr, PA. Aqua plans to hire three additional operators to address
13 the day-to-day operations of the LMT system; however, these operators may be used in
14 other Aqua systems in the area.

15

16 **Q. Will other Aqua PA employees assist in the operation of the system, if needed?**

17 A. Yes. Aqua has 27 wastewater operators, many holding dual water and wastewater
18 certifications, which may be called upon to assist in the operations of the system. These

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1 operators are also supported by Aqua PA employees, which will benefit customers
2 through engineering and field service functions.

3

4 **Q. Please explain the support services that Aqua Services will provide to the LMT**
5 **System.**

6 A. Aqua Services, Inc. (“Aqua Services”), the Service Company for Essential, provides
7 expertise in a variety of areas to the subsidiaries of Essential. Aqua Services will provide
8 support to the operation of the system through its employees’ expertise in accounting and
9 financial, administrative, communications, corporate secretarial, customer service and
10 billing, engineering, fleet services, human resources, information systems, operations,
11 regulatory compliance, rates and regulatory, risk management, water quality, legal, and
12 purchasing, contracts and sales of real estate.

13

14 **Q. Does Aqua plan any physical, operational, and managerial changes after closing?**

15 A. As mentioned above, there are planned capital improvements and Aqua plans to hire
16 three operators. The LMT System will be operated under Aqua’s Southeastern division
17 from Aqua’s Willow Grove office. There will be no other physical, operational, and
18 managerial changes after closing.

19

20 **Q. Is the LMT System similar to other systems owned and operated by Aqua?**

21 A. Yes. The LMT System, as stated above, is a wastewater collection system only. Aqua
22 owns four (4) other collection only systems located within southeastern Pennsylvania.

23

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1 **Q. Do you believe that Aqua is technically fit to own and operate the system?**

2 A. Yes.

3

4 **Q. Please describe the Company's technical fitness and how the Company can provide**
5 **quality and reliable service to LMT wastewater customers.**

6 A. Aqua PA and Aqua are Class A utilities that already have certificates to operate
7 throughout the Commonwealth and have acquired many systems in the last three decades.
8 Aqua will provide quality and reliable service to the LMT wastewater customers given
9 the Company's operational expertise as well as engineering support local to the LMT
10 System. Aqua has expertise in troubleshooting mechanical equipment as well as
11 wastewater treatment processes. Aqua also has expertise in operating wastewater
12 collection and conveyance systems. Aqua strives to ensure the collection, conveyance
13 and pumping systems which the Company owns provide continuous safe and reliable
14 service. Aqua has worked with the Commission and statutory advocates to acquire and
15 improve troubled wastewater systems (e.g., Washington Park Wastewater, Docket No.
16 A230550F2000). In addition, Aqua was appointed receiver for the North Heidelberg
17 Sewer Company system in Berks County by the Commission effective March 5, 2018.
18 Aqua took over daily wastewater operations of the facility serving approximately 274
19 customers on March 5, 2018. Aqua has provided operations service and improvements to
20 the system to ensure quality and reliable service.

21

22 **Q. Does Aqua have emergency preparedness measures in place?**

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1 A. Yes. Aqua currently has emergency preparedness measures in place in order to ensure
2 security and continued service in emergency circumstances all of which have been
3 reviewed by the Commission.

4

5 **Q. Please explain Aqua's safety programs.**

6 A. Aqua and Aqua PA maintain safety programs that entail basic safety training in all the
7 major categories which operators and management personnel are required to complete
8 including but not limited to:

- 9 • Confined Space Training
- 10 • Back and Lifting Safety
- 11 • Work Zone Traffic Control
- 12 • Excavation Safety Awareness
- 13 • Fall Protection Training
- 14 • Hazard Communication
- 15 • Personal Protective Equipment
- 16 • Emergency Egress, Exits and Fire Safety
- 17 • Electrical Safety Training
- 18 • Control of Hazardous Energy | Lockout Tagout
- 19 • Respiratory Protection
- 20 • Hearing Conservation

21

22 Aqua's safety program and procedures provide public benefits in that the LMT customers
23 will have a leader in the wastewater industry providing service.

24

25 **Q. Can Aqua provide adequate wastewater collection, treatment, or disposal capacity**
26 **to meet present and future customer demands?**

27 A. Yes. Aqua can provide adequate wastewater service for present and future customers.

28 Aqua will continue to make improvements to the system to ensure any future customer
29 demands are met.

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Q. Please summarize why you believe it is in the public benefit for Aqua to own and operate the system.

A. My explanation of Aqua’s current operations, the LMT System’s similarity to other systems operated by Aqua, the LMT System’s proximity to Aqua’s service territory, the additional support that will be provided by Aqua as an experienced wastewater utility, and my explanation of Aqua’s technical fitness, all support that it is in the public benefit for Aqua to own and operate the LMT System.

V. CONCLUSION

Q. Does this conclude your testimony?

A. Yes, it does. However, I reserve the right to supplement my testimony as additional issues and facts arise during the course of this proceeding.