

FILED
March 29, 2018
INDIANA UTILITY
REGULATORY COMMISSION

Petitioner's Exhibit No. 2

IURC
PETITIONER'S
EXHIBIT NO. 9-5-18
DATE REPORTER

EVANSVILLE WATER AND SEWER UTILITY

INDIANA UTILITY REGULATORY COMMISSION

CAUSE NO. 45073

OFFICIAL
EXHIBITS

DIRECT TESTIMONY

OF

PATRICK R. KEEPE, P.E.

SPONSORING ATTACHMENTS PRK-1 THROUGH PRK-7

City of Evansville

Cause No. _____

Direct Testimony of Patrick R. Keepes, P.E

1 **Q. Please state your name, occupation, and business address.**

2 A. My name is Patrick R. Keepes. I am the Water Superintendent for the Evansville
3 Water and Sewer Utility, which is owned by the City of Evansville
4 ("Evansville"), the Petitioner in this cause. My business address is 1931 Allens
5 Lane, Evansville, Indiana 47720.

6 **Q. Please describe your formal education and summarize your experience and**
7 **current duties for Evansville.**

8 A. I have a Bachelor of Science degree in Civil Engineering Technology from the
9 University of Southern Indiana. From February 1999 to April 2014 I served as
10 the City Civil Engineer for Evansville. In April 2015, I became the Water
11 Superintendent and in that capacity I am responsible for the management and
12 operations of the water system including the treatment plant, the distribution
13 system, water storage facilities and booster stations. I oversee a staff of 8
14 supervisors who, in turn, oversee staff that includes 1 non-bargaining unit
15 employee and 43 bargaining unit employees. My duties include the creation of
16 budgets, administrative tasks and the direction of work flows to ensure proper
17 steps are taken to operate and maintain the water system as efficiently as possible

1 while providing customers with quantities and quality of water that meet demand
2 and are in compliance with regulatory standards.

3 **Q. Are you a registered professional engineer in the State of Indiana?**

4 A. Yes.

5 **Q. Please describe Evansville's water utility operations.**

6 A. The City owns and operates a full-service water utility. The system includes an
7 intake structure and treatment plant constructed in the 1890's along the Ohio
8 River. Also included is a distribution system of approximately 1,000 miles of
9 water mains, approximately 600 miles of which is cast iron with an estimated
10 average age of approximately 90 years. These water mains transmit and distribute
11 potable water to more than 60,000 retail customers in the City of Evansville,
12 Vanderburgh County, Indiana and the western edge of Newburgh, Indiana located
13 in Warrick County, Indiana. We also provide water for fire protection, serving
14 more than 6,000 hydrants, and our ten water storage facilities with a storage
15 capacity of nearly 37 million gallons of water. We also sell treated water at
16 wholesale to Gibson Water, Inc., German Township Water District, and The
17 Town of Elberfeld.

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

1 A. I am testifying in support of Evansville's petition for authorization to (a) issue
2 bonds, notes or other obligations; and (b) increase its rates and charges for water
3 service and issue a new schedule of rates and charges.

4 **Q. Are you sponsoring any exhibits?**

5 A. Yes. Attachment PRK-1 is a copy of three Resolutions adopted on March 20,
6 2018 authorizing the specific request for Commission authority to increase water
7 rates in three phases in an aggregate amount of 48.30% as well as other actions
8 related to the relief requested in this Cause. The City is sending notice of this
9 proceeding and our requested relief to the sale-for-resale customers I previously
10 identified. Attachments PRK-2 through PRK-6 describe specific capital
11 improvements, setting forth projects in five categories, and their anticipated costs,
12 over the next three years. I refer in my testimony to these projects collectively as
13 Evansville's "CIP."

14 **Q. Please describe Evansville's CIP.**

15 A. The CIP is divided among the following categories: Distribution System, Booster
16 Station, Treatment Plant, Wholesale Projects, and Annual Capital Improvement
17 Projects.

18 The aforementioned PRK-2 lists the water mains to be replaced at a target rate of
19 1.5% per year. As previously indicated, approximately 60% of our system
20 consists of cast iron mains with an approximate average age of 90 years. Most

1 individuals familiar with water industry have heard for some time now about the
2 issues of the age and condition of water infrastructure nationwide. There is a
3 significant funding gap between the current rate of replacement and the ideal rate
4 of replacement. Much of Evansville's distribution system is at or near the end of
5 its life expectancy and to bridge the gap between the current pace of replacement
6 and the ideal level of replacement, the target rate of replacement (1.5% per year)
7 is necessary, at a minimum. To put this need in perspective, our jurisdictional
8 area has experienced an average of approximately 34 main breaks per year per
9 100 miles from 2014 through 2017. This, as compared to a 2016 American Water
10 Works Association survey for which the median number of main breaks was 10
11 per 100 miles. A March 2018 study performed by Utah State University and
12 titled *Water Main Break Rates in the USA and Canada: A Comprehensive Study*
13 reported that between 2012 and 2018, overall water main break rates increased by
14 27% from 11 to 14 breaks per 100 miles per year. The study and subsequent
15 March 6, 2018 press release pointed out that main break rates for cast iron pipe
16 have increased over 40% in the past six years. The findings went on to state that
17 pipe replacement rates should be between 1% and 1.6% and that, in general, pipe
18 replacement rates needed to increase. Further, the potential for failure rates to
19 increase exponentially in the near future was discussed. While EWSU's target
20 replacement goal of 1.5% was detailed and planned to be achieved with the
21 distribution system projects laid out in IURC Cause No. 44760, eventual bid
22 prices have (to date) for the most part resulted in a trend that appears to be closer

1 to a 1% replacement level. The current estimates for those projects listed in PRK-
2 are intended to be more in line with recent bids such that the 1.5% will be
3 achieved in Phase I, Phase II and Phase III.

4 PRK-3 lists specific booster station improvements and replacements.

5 PRK-4 details those capital projects necessary to continue operating the
6 approximately 120 year old water treatment facility. These projects do not extend
7 the life expectancy of the facility. Rather, they address immediate operational
8 needs, mitigate risk, protect vulnerable components and ensure the facility is
9 compliant with regulatory permits. These projects also do not supplant the need
10 to explore options for a new treatment plant (see PRK-7).

11 PRK-5 includes those projects necessary to provide additional demand to one of
12 EWSU's wholesale customers (Gibson Water Corporation). Conversations with
13 this wholesale customer have indicated 500,000 gallons per day additional future
14 demand. These projects, totaling \$6,454,900 in Phase III, would be required in
15 order to meet that additional demand.

16 PRK-6 includes the annual capital projects that will be funded through rates.

17 PRK-7 is an update to the OUCC that, at the time, was the most recent
18 information available on efforts to explore new treatment plant options. The
19 number of additional test drilling locations referenced in that update has increased

1 from two to four and that work is taking place as of this writing. As such, no
2 decisions have yet been made in regards to the \$10 million for preliminary
3 engineering allocated as part of IURC Cause No. 44760.

4 **Q. Are each of the projects listed in Attachments PRK-2 through PRK-6**
5 **reasonably necessary for the provision of reasonable and adequate service?**

6 A. Yes they are.

7 **Q. Are each of the costs specified for the various components of Evansville's**
8 **CIP precise, final costs?**

9 A. No. The costs set forth in my attachments are estimates. We will not know the
10 actual costs until we proceed with final engineering and bidding of each project. I
11 have, however, made a good faith attempt to estimate as accurately as possible
12 based not only on my years of experience in water utility operations and
13 construction but on vendor quotes and specific analysis done by my staff and
14 others.

15 **Q. Is it possible that priorities could change such that other projects might be**
16 **substituted for those currently in the CIP?**

17 A. Yes. The CIP is a 3-year plan. It sets forth the projects that we believe, sitting
18 here today, will be needed over the course of the next 3 years. As circumstances
19 change over the next 3 years, it is possible that other projects will need to be
20 substituted for those that we are presently planning. It is possible, to the extent of

1 available funds, that projects may be advanced from a later year in the plan to an
2 earlier year or vice versa. But the CIP is our best estimate of the replacements
3 that we need to undertake over the next 3 years.

4 **Q. Does the CIP include extensions of Evansville's distribution system to**
5 **provide service to any new customers?**

6 A. No.

7 **Q. How has Evansville progressed in completing the projects outlined in the**
8 **capital improvement plan presented in its last rate case (Cause No. 44760)?**

9 A. Evansville's CIP presented in the last rate case was divided among the following
10 categories: Mains, Vehicles, Equipment and Treatment. Of those categories, the
11 majority of projects outlined in Evansville's CIP were categorized as "Mains" and
12 "Treatment" projects. With respect to Mains projects, in Cause No. 44760, I
13 described the City's goal set forth in its CIP of replacing aging distribution system
14 infrastructure at a rate of 1.5% per year. With respect to Treatment projects, I
15 explained that the Treatment category included in Evansville's CIP constituted
16 projects to study Evansville's options with respect to its aging treatment plant. As
17 I explained previously, we are currently replacing approximately 10 miles of
18 water mains, or about two-thirds of its 1.5% replacement goal. We are on track to
19 achieve the same replacement level (approximately 10 miles) this year.

20 **Q. Why is Evansville's replacement rate lower than what was anticipated in its**
21 **CIP?**

1 A. As I discussed previously and in Cause No. 44760, the costs set forth in
2 Evansville's CIP are estimates, and we cannot determine actual costs until final
3 engineering is complete and the City bids the project. With respect to the main
4 replacement projects outlined in Evansville's CIP, the actual bid prices received
5 for the work have been higher than what the City anticipated. Therefore, the
6 City's annual budget for main replacement projects can only cover a portion of
7 the projects originally planned in any given year.

8 **Q. Have the capital improvement priorities outlined in Evansville's current CIP**
9 **changed from the CIP presented in its last rate case?**

10 A. No. As I have testified, Evansville's last CIP focused on main replacement and
11 treatment system projects. The major projects included in Evansville's current
12 CIP focus on these areas of need, as well.

13 **Q. What major projects are included in Evansville's current CIP?**

14 A. Currently there are two major projects set forth in Evansville's CIP. The first
15 project is an approximately \$18,000,000 new clear well that will store 6 million
16 gallons of water. The second major "project" includes \$107,535,200 of
17 distribution system projects consisting of over 40 individual main replacement
18 projects. As discussed earlier, Evansville is attempting to achieve a 1.5%
19 replacement rate of mains per year.

20 **Q. Please explain the need for the proposed new \$18,000,000 clear well and how**
21 **this relates to the alternative water source investigation that was part of**
22 **Evansville's previous rate case.**

1 A. As discussed in Cause No. 44760, Evansville's treatment plant was constructed in
2 the 19th Century and, due its age, will likely need replacement or significant
3 improvements in the near future. Thus, Evansville has undertaken an investigation
4 to study its treatment plant options and source of supply issues. Evansville's
5 alternative water source investigation, specifically on groundwater, is not yet
6 complete and is ongoing. As a result, in order to perform maintenance,
7 inspections and repairs on the existing 6.5 million gallon clear well (that is over
8 50 years old) and create redundancy in the system, Evansville is undertaking an
9 \$18,000,000 clear well tank project for purposes of storing 6 million gallons of
10 water. While this project is needed for continued operation of the existing plant,
11 it will also be designed to be utilized in the event a new groundwater treatment
12 plant is constructed.

13 **Q. What is the current status of Evansville's alternative water source**
14 **investigation?**

15 A. In October 2016, Evansville's Board of Directors approved an agreement in the
16 amount of \$416,000 for the engineering, survey and geotechnical services
17 (wellfield evaluations) necessary to determine the quantity and quality of potential
18 groundwater supply. The wellfield evaluation was centered at a location exactly
19 1.5 miles southeast of the existing surface water treatment plant and it included
20 six test borings that were installed during the period from July 25, 2017 to August
21 11, 2017. The borings were situated along Waterworks Road in a wide floodplain
22 south and east from the existing water treatment plant. This area consists of

1 reworked channel and riverbank deposits of the Ohio River that have evolved
2 over many years. The results of the investigation indicated good water quality in
3 all six borings. However, although the water quality was good, the water quantity
4 was not promising. All six test drilling sites indicated aquifer materials that could
5 be utilized to develop groundwater supplies of varying quantities, between 4 and
6 10 million gallons per day (MGD). Such quantities would require multiple
7 collector wells to construct the new 60 MGD plant as outlined in the *New*
8 *Groundwater Treatment Plant Feasibility Study* dated December 2014. That
9 document was presented as OUCC DR 1.5 in IURC Cause No. 44760. As a result
10 of these poor quantity results at the initial test locations, we have identified four
11 additional locations to drill. That additional drilling is taking place at the time of
12 this writing. Those four wells will hopefully show promising water quantity
13 results and, if they do, we will then need to decide whether to proceed with a new
14 plant utilizing ground water or whether to upgrade our existing facility and
15 continue to use the Ohio River.

16 **Q. Please describe the Tank Maintenance Program included in the CIP**
17 **presented in the last rate case and Evansville's success with this program.**

18 A. The Tank Maintenance Program is a comprehensive management program for
19 storage tanks. The program covers everything from routine maintenance up to
20 major renovations, including blasting and coating. The program has been widely
21 successful. In these first two years of the program, the Killian tank, Darmstadt
22 tank, and both backwash tanks at the plant have been cleaned and coated. As of

1 this writing, the Grimm Road tank is in that same process of being cleaned and
2 coated. We anticipate continuing the program and achieving similar successes.

3 **Q. How does Evansville propose to finance the CIP?**

4 A. As described in the direct testimony of our accountant in this cause, Doug
5 Baldessari, Evansville proposes to issue, with this Commission's approval,
6 \$147,355,000 of waterworks district revenue bonds. These bonds will also fund
7 various non-construction costs, such as financing costs, capitalized interest and a
8 debt service reserve. The remaining balance of the CIP will be funded through
9 revenues.

10 **Q. Please explain how the intervals and costs for periodic maintenance items**
11 **were derived.**

12 A. For high and low service pumps, the most recent competitive bid prices served as
13 the basis for the cost estimates (\$90,240/high service pump and \$100,140/low
14 service pump) and a 4 year maintenance interval was assumed, as negotiated in
15 the Stipulation and Settlement Agreement for IURC Cause No. 44760. For filter
16 bed rehabilitation and media replacement, the most recent competitive bid prices
17 also served as the cost estimate basis. It is worth noting these actual bid prices
18 (\$251,705/filter bed) are just over twice the amount estimated in IURC Cause No.
19 44760. It can be difficult to ascertain differences between estimates and eventual
20 bids. In this instance, it is believed that an abundance of construction projects in
21 the city and a limited number of contractors and labor (particularly for this

1 somewhat specialized type of work) have resulted in costs that are significantly
2 higher than those in recent history. With regards to the maintenance interval, the
3 goal is to rehabilitate four beds in each of the three phases of this rate case in
4 order to achieve the 10 to 20 year rehabilitation cycle discussed in the Stipulation
5 and Settlement Agreement for IURC Cause No. 44760. The annual amount for
6 dredging (\$236,580) is based on the sole response dated October 11, 2017 to a
7 formal Request for Proposals. Storage tank maintenance costs are actual and are
8 detailed in a long term, comprehensive maintenance agreement that was entered
9 into May 10, 2016 with Utility Service Co., Inc. The results achieved under this
10 agreement have exceeded expectations in terms of protecting these critical assets
11 of the system with regularly scheduled inspections, cleanings and coatings. Also
12 included in periodic maintenance costs are a total of 18 booster station pumps.
13 Maintenance of 3 pumps per year at a cost of \$20,637 (2017 average, actual cost
14 per pump) for a total annual cost of \$61,911 enables the continuance of a six year
15 maintenance interval. With regards to traveling screens, an annual expenditure of
16 \$61,680 is proposed. The basis for this amount is the most recent quote received
17 (dated November 1, 2017) and this would enable the maintenance of the three
18 traveling screens to continue on a four year cycle as discussed in the Stipulation
19 and Settlement Agreement for IURC Cause No. 44760. Finally, the goal of
20 continuing to utilize current and emerging technologies in performing pipeline
21 condition assessment is reflected in the proposed annual expenditure of \$492,883
22 that was based on an estimate received in December 2017.

1 **Q. How much of a rate increase is EWSU seeking in this proceeding?**

2 A. After working closely with our financial advisors over the past several months,
3 we have determined it is in our customer's best interest for Evansville to increase
4 its water rates in three phases rather than all at once. The first step is 18.90%, the
5 second step is 15.50%, and the third step is 8.00%. The overall increase is
6 48.30%. By doing the increase in three steps, we build up to the target 1.5% main
7 replacement rate over three years.

8 **Q. Please describe the amount and timing of each proposed increase.**

9 A. We are proposing that the first and largest increase, 18.90%, take effect as soon as
10 administratively feasible upon the issuance by this Commission of an order
11 approving it. That increased rate would last through the 2019 calendar year. The
12 second phase of the rate increase would occur on January 1, 2020, at which point
13 Evansville's water rates would increase by another 15.50% above the rates at the
14 end of 2019. The third and final phase of the rate increase would occur on
15 January 1, 2021, at which point rates would increase 8.00% above the rates at the
16 end of 2020.

17 **Q. As a municipal water utility, Evansville is not assessed taxes on its property.**
18 **Do the new rates you are seeking contemplate a payment to the Civil City in**
19 **lieu of property taxes?**

20 A. Yes. The proposed rates include recovery of Evansville's cost to make annual
21 payments in lieu of taxes in the amounts of \$1,882,300 in phase I, \$2,509,100 in

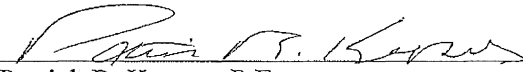
1 phase II, and \$3,112,900 in phase III. The calculation of these amounts is
2 explained in Mr. Baldessari's testimony.

3 **Q. Does this conclude your direct testimony in this cause?**

4 **A. Yes.**

VERIFICATION

I, Patrick R. Keepes, P.E., affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.


Patrick R. Keepes, P.E.

Date: march 29, 2018

RESOLUTION 2018-2**RESOLUTION OF THE EVANSVILLE WATER & SEWER UTILITY BOARD
CONCERNING WATER RATES AND CHARGES**

WHEREAS, on this 20th day of March, 2018, the Utility Board adopted a resolution authorizing the filing of a petition with the Indiana Utility Regulatory Commission ("IURC") seeking authority for a general water rate increase and bond issues; and

WHEREAS, such a petition will be filed in the near future and assigned an IURC Cause No.; and

WHEREAS, at this time the full extent of the rate relief to be sought in the referenced petition to the IURC remained to be finalized; and

WHEREAS, the outside expert utility rate consultants retained by the Utility Board, together with the Utility's management, have studied the need for a water rate increase and identified the extent of rate relief needed, and provided to the Utility Board prior to this meeting a recommendation for a series of three rate increases to be implemented upon approval by the IURC over the course of not less than three years, the aggregate amount of the proposed increase being 48.30%; and

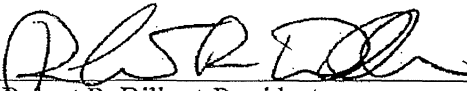
WHEREAS, after full review, discussion and due consideration of the aforesaid matter presented, reported, and recommended, upon motion duly made and seconded, the following resolutions were adopted:

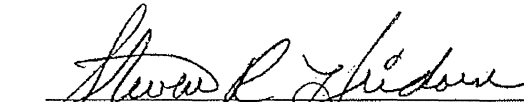
NOW, THEREFORE, BE IT RESOLVED that the Utility senior management is hereby authorized and directed to prepare and file with the IURC testimony and exhibits of internal as well as external witnesses in support of the Utility's petition for a water rate increase designed to establish a new schedule of rates and charges consistent with the attached proposal recommended for adoption by this Utility Board; and

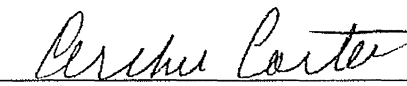
RESOLVED FURTHER: The management of this Board and the Utility we oversee along with our legal counsel, be and they are hereby authorized to do all such acts and things, execute and deliver all needed or desired documents, and to incur and pay all costs and expenses as may be necessary in order to fully effectuate the purpose and intent of these resolutions; and all of the acts and doings of the management and legal counsel consistent with the purpose and intent of these resolutions shall be, and the same are hereby in all respects, ratified, approved and confirmed by the Board.

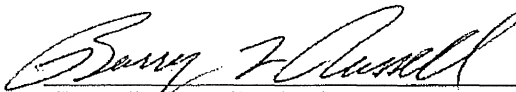
The foregoing was passed by the Board of Directors of the Department of Waterworks of the City of Evansville, Indiana this 20th day of March, 2018.

BOARD OF DIRECTORS OF
THE DEPARTMENT OF WATERWORKS OF
THE CITY OF EVANSVILLE, INDIANA


Robert R. Dillow, President


Steven Heidorn, Vice President


Archie Carter, Member


Barry L. Russell, Member


Mike Weber, Member

ATTEST:


Secretary

RESOLUTION NO. 2018-3

**DECLARATORY RESOLUTION OF THE BOARD OF DIRECTORS
OF THE DEPARTMENT OF WATERWORKS
OF THE CITY OF EVANSVILLE, INDIANA**

WHEREAS, the City of Evansville, Indiana (the "City") had and operated a department of waterworks before January 1, 1982, under Indiana Code 19-3-15 (repealed) and is therefore deemed to have established a department of waterworks under Indiana Code 8-1.5-4 (the "Department") operated by a board of directors (the "Board"); and

WHEREAS, the Board, upon investigation, has found and determined that it is necessary to make improvements to the waterworks, more specifically described as improvements to water treatment plant improvements, distribution system improvements and various other waterworks improvements (collectively referred to as the "Improvements"); and

WHEREAS, the Board has begun preparing maps, plans, specifications, and drawings with full details and descriptions for the proposed work, together with an estimate of the cost, which shall be completed prior to the issuance of the bonds; and

WHEREAS, pursuant to Indiana Code § 8-1.5-4-15, if the Board desires to construct the Improvements, the Board must adopt a resolution making certain findings and authorizing a public hearing related to the Improvements; and

WHEREAS, the Board deems it necessary: (i) to establish when and where a public hearing on the Improvements will be held by the Board pursuant to Indiana Code § 8-1.5-4-15, (ii) to authorize the President of the Board to mail and publish notice of said public hearing in accordance with Indiana Code 5-3-1, and (iii) to authorize the President of the Board or any officer of the Board to take any other action as the President of the Board or such other officer deems necessary or desirable to effect this Resolution.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE DEPARTMENT OF WATERWORKS OF THE CITY OF EVANSVILLE, INDIANA, RESOLVES AS FOLLOWS:

Section 1. The Board hereby declares that it is of public utility and benefit and it is necessary for the protection of the public health and welfare of the inhabitants of the City of Evansville Waterworks District (the "District") and the safeguarding of the property within the District to proceed with the Improvements.

Section 2. The Board hereby adopts the preliminary plans, maps, specifications, drawings, details, descriptions, and estimates for the Improvements (collectively referred to as the "Plans and Estimates"). The Board's cost estimate for the Improvements is in excess of \$165,000,000. The Board further finds that the precise property rights and locations needed to complete the Improvements are impossible to determine at this time. If the final Plans and Estimates require the purchase or appropriation of land, easements or rights-of-way not currently owned by the Department, then the Board will amend this Resolution if necessary to comply with Indiana Code 8-1.5-4. The Board proposes that the Improvements proceed and that the Improvements be financed by the issuance of one or more series of revenue bonds of the District to be issued pursuant to Indiana Code 8-1.5-4, to include all of the costs of the Improvements and

the costs of issuance of the Bonds in an estimated amount not to exceed \$165,000,000 (the "Bonds").

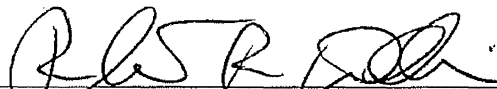
Section 3. On April 3, 2018, at 1:30 p.m., local time, at the Water Utility Board Room, located at Room 307 of the Civic Center Complex, Evansville, Indiana, the Board will conduct a public hearing pursuant to Indiana Code § 8-1.5-4-15 (the "Public Hearing"). At the time fixed for the Public Hearing or before the Public Hearing, the Board will receive all written remonstrance from persons who own real or personal property within the District. At the Public Hearing, the Board will hear all persons interested in the proceedings. Following the Public Hearing, the Board will take final action on this Resolution and determine whether to issue the Bonds for the Improvements.

Section 4. Any officer or member of the Board, or, if authorized by the President of the Board, any employee of the Department, shall be, and hereby is, authorized, empowered and directed, on behalf and in the name of the District, to publish notice of the Public Hearing and to take any other action as the President or such officer deems necessary or desirable to effect the foregoing resolutions, and any such publication or other actions heretofore made or taken shall be, and hereby are, ratified and approved. This Resolution and the Plans and Estimates shall be kept on file and open to inspection in the office of the Department.


Section 5. This Resolution shall be in full force and effect upon its passage.

ADOPTED AND APPROVED at a meeting of the Board of Directors of the Waterworks
Department of the City of Evansville, Indiana, held on the 20th day of March, 2018.

BOARD OF DIRECTORS OF
THE DEPARTMENT OF WATERWORKS OF
THE CITY OF EVANSVILLE, INDIANA



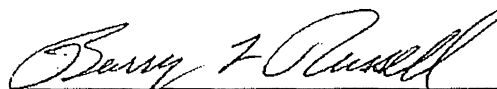
Robert R. Dillow, President



Steven Heidorn, Vice President



Archie Carter, Member



Barry L. Russell, Member



Mike Weber, Member

ATTEST:



Secretary

RESOLUTION NO. 2018-4

**A PRELIMINARY BOND RESOLUTION OF THE CITY OF EVANSVILLE
DEPARTMENT OF WATERWORKS AUTHORIZING THE ISSUANCE OF REVENUE
BONDS OF THE WATERWORKS DISTRICT OF THE CITY OF EVANSVILLE,
INDIANA, FOR THE PURPOSE OF PROCURING FUNDS FOR WATER TREATMENT
PLANT IMPROVEMENTS, DISTRIBUTION SYSTEM IMPROVEMENTS AND
VARIOUS OTHER WATERWORKS IMPROVEMENTS,
AND CERTAIN RELATED MATTERS**

WHEREAS, the Board of Directors of the City of Evansville Department of Waterworks (the "Board"), the governing body of the Waterworks District of the City of Evansville, Indiana (the "District"), exists and operates under the provisions of Indiana Code 8-1.5-4, as amended from time to time; and

WHEREAS, the Board finds that in order to provide funds for the payment of the costs of water treatment plant improvements, distribution system improvements and various other waterworks improvements, (the "Project"), it will be necessary and in the best interest of the District, and the property and inhabitants thereof, to issue bonds of the District in an aggregate principal amount not to exceed One Hundred Sixty-Five Million Dollars (\$165,000,000), which shall be payable solely from the net revenues (the "Net Revenues") of the District's waterworks (the "Waterworks"); and

WHEREAS, certain preliminary expenditures related to the Project have been or will be incurred by or on behalf of the District prior to the issuance and delivery of such bonds; and

WHEREAS, the Board desires to express its intention to reimburse such expenditures as have been or may be incurred prior to the issuance of such bonds, pursuant to Indiana Code § 5-1-14-6 and in compliance with Section 1.150-2 of the U.S. Treasury Regulations promulgated by the Internal Revenue Service (the "Treasury Regulations").

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE DEPARTMENT OF WATERWORKS OF THE CITY OF EVANSVILLE, INDIANA, RESOLVES AS FOLLOWS:

1. The District shall proceed to undertake the Project. For the purpose of procuring funds to pay for the cost of the Project, the City of Evansville, Indiana (the "City"), acting for and on behalf of the District, shall make a loan in an amount not to exceed One Hundred Sixty-Five Million Dollars (\$165,000,000).

In order to procure funds for said loan, the Controller of the City is hereby authorized and directed to have prepared and to issue and sell the revenue bonds of the District, in one or more series or issues, the principal of and interest on which are payable solely from the Net Revenues, which bonds shall be issued in the name of the City, for and on behalf of the District, in an aggregate principal amount not to exceed One Hundred Sixty-Five Million Dollars (\$165,000,000) (the "Bonds"), with a discount not to exceed the discount set forth in or determined by the Final Bond Resolution to be adopted by the Board, and which amount (together with any investment earnings thereon, if any) does not exceed the cost of the Project, which estimated cost shall not exceed One Hundred Sixty-Five Million Dollars (\$165,000,000), plus investment earnings thereon, if any, which will be provided from proceeds of the Bonds, plus any investment earnings thereon.

The Bonds shall not constitute a corporate obligation or indebtedness of the City but shall constitute an obligation of the District. The Bonds, together with interest thereon, shall be payable solely from the Net Revenues.

The Bonds shall mature and be payable no later than January 1, 2056, and shall bear interest as set forth in the Final Bond Resolution to be adopted by the Board. The Bonds may be subject to redemption prior to maturity in whole or in part in accordance with the terms set forth in the Final Bond Resolution to be adopted by the Board.

The Board hereby authorizes the proper officers of the District to issue bond anticipation notes ("BANs") in anticipation of the issuance of the Bonds, subject to the provisions of the Final Bond Resolution to be adopted by the Board.

2. The Board hereby authorizes the publication in accordance with Indiana law of (a) a notice of the decision of the District to issue bonds in excess of Five Thousand Dollars (\$5,000), as required by the provisions of Indiana Code § 6-1.1-20-5, and (b) a notice of public hearing regarding the proposed additional appropriation of the proceeds of the Bonds and the BANs, if any.

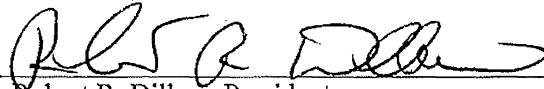
3. The Board hereby declares that, for the purpose of evidencing compliance with Indiana Code § 5-1-14-6 and Section 1.150-2 of the Treasury Regulations, it reasonably expects to reimburse with the proceeds of the Bonds (in an amount not to exceed the amount set forth above and payable from the sources set forth above) expenditures for the Project made by or on behalf of the District prior to the issuance of the Bonds during the period beginning on the date sixty (60) days prior to the date of this Resolution until the date of issuance of the Bonds, which expenditures are expected to be paid initially from other legally available funds of the District.

4. The President and the Vice President of the Board shall certify a copy of this Resolution to the Controller of the City.

5. This Resolution shall be in full force and effect after its adoption by the Board.

ADOPTED AND APPROVED at a meeting of the Board of Directors of the Waterworks Department of the City of Evansville, Indiana, held on the 20th day of March, 2018.

BOARD OF DIRECTORS OF
THE DEPARTMENT OF WATERWORKS OF
THE CITY OF EVANSVILLE, INDIANA



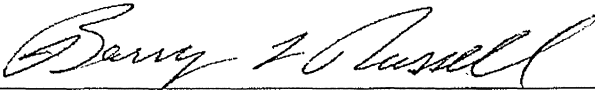
Robert R. Dillow, President



Steven Heidorn, Vice President



Archie Carter, Member

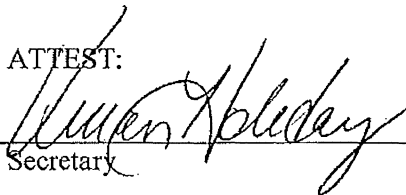


Barry L. Russell, Member



Mike Weber, Member

ATTEST:



Secretary

Attachments PRK-2 through PRK-6 filed
separately as an Excel file



LLOYD WINNECKE
MAYOR

EVANSVILLE WATER & SEWER UTILITY

ALLEN MOUNTS
DIRECTOR

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December 26, 2017

Indiana Office of Utility Consumer Counselor
PNC Center
115 West Washington Street, Suite 1500 South
Indianapolis, Indiana 46204

Re: Indiana Utility Regulatory Commission (IURC) – Cause No. 44760

In regards to the above referenced IURC matter and the associated *Stipulation and Settlement Agreement*, specifically *Item 19. Treatment Plant Project* that states in part “No less than annually, Evansville shall update the OUCC through a meeting or correspondence as to the status of the planning and design of its treatment plant project.”, the following information is provided:

In October 2016, the Evansville Water and Sewer Utility (EWSU) Board of Directors approved an agreement in an amount not-to-exceed \$416,000 for the engineering, survey and geotechnical services (wellfield evaluation) necessary to determine the quantity and quality of potential groundwater supply.

The wellfield evaluation was centered at a location approximately 1.5 miles southeast of the existing surface water treatment plant and it consisted of six test borings that were installed during the period from July 25, 2017 to August 11, 2017. The borings were situated along Waterworks Road in a wide floodplain south and east from the existing water treatment plant. This area is comprised of reworked channel and riverbank deposits of the Ohio River that have evolved over many years.

In summary, sandy soil conditions were encountered in all six borings. These conditions were consistent with what was to be expected of the alluvial-related deposition that would have occurred over the years as a result of glacial activity and the river migration reported in this area.

All six test drilling sites indicated aquifer materials that could be utilized to develop groundwater supplies of varying quantities, between 4 and 10 million gallons per day (MGD). These quantities would require multiple collector wells to develop a firm capacity of the future anticipated average daily demand of 40 MGD or more.

It appeared from the borings that formation deposits may be improving in a south-easterly direction and that further exploratory test drilling could identify sites with better potential to meet needed well capacities. As such, two additional locations were selected and negotiations for rights-of-entry to perform the additional testing are currently taking place with those property owners. As of this writing, it is anticipated that those rights-of-entry will be secured and test drilling will commence near the end of January.

Further updates will be provided as information becomes available and, in the interim, we will be glad to meet to discuss the findings to-date that have been outlined above.

Sincerely,



Patrick R. Keepes, P.E.
Water Superintendent

Cc: File