STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF THE CITY OF EVANSVILLE, INDIANA, FOR AUTHORITY TO ISSUE BONDS, NOTES, OR OTHER OBLIGATIONS, FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE, AND FOR APPROVAL OF NEW SCHEDULES OF WATER RATES AND CHARGES	)	**CAUSE NO. 45073**

OUCC PREFILED TESTIMONY

OF

JAMES T. PARKS – PUBLIC'S EXHIBIT NO. 3

ON BEHALF OF THE

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

JULY 20, 2018

Respectfully Submitted,

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

Daniel M. Le Vay, Atty. No.22184-49
Deputy Consumer Counselor

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing ***Office of Utility Consumer Counselor Prefiled Testimony James T. Parks*** has been served upon the following counsel of record in the captioned proceeding by electronic service on July 20, 2018.

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TESTIMONY OF OUCC WITNESS JAMES T. PARKS
CAUSE NO. 45073
CITY OF EVANSVILLE

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is James T. Parks, P.E., and my business address is 115 W. Washington Street, Suite 1500 South, Indianapolis, IN 46204.

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

A: I am employed by the Office of Utility Consumer Counselor ("OUCC") as a Utility Analyst II in the Water/Wastewater Division. My qualifications and experience are described in Appendix A.

Q: What is the purpose of your testimony?

A: The City of Evansville's (hereafter "Petitioner," "Utility" or "Evansville") has requested authority to borrow approximately $132.4 million and included $25 million as an Extensions & Replacement ("E&R") revenue requirement to fund capital improvements . My testimony critiques Evansville's capital improvement plan. I describe Evansville's water system and discuss how the proposed capital improvements will upgrade existing assets and replace aging infrastructure. I explain why the OUCC generally considers the projects themselves appropriate as they replace aging water mains that experience numerous breaks. I explain why Petitioner's project cost estimates appear to be overstated. I express doubt about Petitioner's ability to implement the construction schedules within the timeframes currently indicated. I explain why I consider Petitioner's submission of project

information and costs to lack sufficient detail. I explain why Petitioner has not supported the need for the new $18 million dollar clearwell at the Treatment Plant.

Q: Please describe the review and analysis you conducted to prepare your testimony.

A: I reviewed Evansville's Petition and the testimonies of Douglas L. Baldessari, CPA, H.J. Umbaugh & Associates Certified Public Accountants, LLP and Patrick R. Keepes, P.E., Water Superintendent, as well as Petitioner's recent annual reports filed with the Indiana Utility Regulatory Commission ("Commission" or "IURC"). I also wrote discovery requests and reviewed Petitioner's responses. On May 24, 2018, OUCC Utility Analyst, Carl Seals, and I met with Mr. Keepes, Michael D. Labitzke, P.E., Deputy Director Utilities–Program Management Office and Mr. Richard Glover, Water Production Manager, to discuss Petitioner's current operations and capital improvement plans and tour Evansville's filtration plant. I also reviewed Petitioner's funding requests, project information and estimated project costs for individual projects from Cause Nos. 44760 and 45073.

I reviewed the October 2009 *Water Master Plan* and the September 2016 *Water Master Plan* prepared by HNTB Corporation. I also reviewed the Drinking Water *Preliminary Engineering Report A* ("*PER A*") Petitioner submitted to the Indiana Finance Authority's Drinking Water State Revolving Fund ("DWSRF"). I conducted discovery seeking further justification for Petitioner's request and reviewed prior Causes. I reviewed Master Plans, evidence submitted in prior Evansville cases, and several of Petitioner's submittals to the Drinking Water State Revolving Fund loan program regarding 23 water main replacement or relocation projects, a Clearwell and High Service Pump project, and a booster station project.

Finally, I compiled and attached various documents, which I refer to in my testimony. These attachments are listed in Appendix B.

II. DESCRIPTION OF THE EVANSVILLE WATER SYSTEM

Q: Please provide a brief description of the Evansville Water System and potential future demands.

A: Petitioner provides water utility service to approximately 62,631 residential, commercial, and industrial customers in and around the City of Evansville in Vanderburgh County, Indiana and to several wholesale water customers. Petitioner's customer base has grown 3.5% in the last decade, but according to data from its Annual Reports to the IURC, water production (23.3 million gallon per day ("MGD") on average) and water sold (19.1 MGD on average) have been relatively flat at for the past ten years (*See* Table 1, Appendix C). Evansville draws its water from the Ohio River and treats it at the water treatment plant, which according to Petitioner, has a 60 MGD capacity. Petitioner has three interconnected clearwells totaling 8.5 million gallon ("MG") and 28.5 MG of water storage capacity in the distribution system, for a total finished water storage capacity of 37 MG. Evansville's distribution system consists of approximately 1,015 miles of water mains ranging from 1-inch up to 60-inch. For a more detailed description of the Evansville water system, please refer to Appendix C.

Petitioner did not provide evidence indicating the future water demand in its Case-in-Chief testimony. However, Evansville's consultant, HNTB Corporation, briefly discusses future water demands in both the 2009 and 2016

Water Master Plans. For the twenty-year planning period to the year 2035, HNTB modeled the system for the average daily water pumped increasing by 9.3 MGD from the current 22.2 MGD (2017) to 31.5 MGD (2035) [1] and Petitioner estimated even higher future demand than shown in its 2016 *Water Master Plan* at 35.8 MGD average daily water pumped.[2] As is discussed further in Appendix C, HNTB's and Petitioner's future water demand estimates are aggressive when compared to the actual flat demands over the past ten years.

III. CAPITAL IMPROVEMENT PROGRAM UNDER CAUSE NO. 44760

Q: In 2016, did Petitioner propose capital improvements in Cause No. 44760?

A: Yes. Mr. Keepes presented Petitioner's four year capital improvement program ("2017 to 2020 CIP") in Attachments PRK-3 through PRK-8 by listing project names, project descriptions (e.g. pipe types, diameters, lengths), and total estimated project costs by year for 105 projects.[3] Petitioner estimated $108,107,237 in total project costs to complete all the 2017 to 2020 CIP projects under Cause No. 44760. *See* Attachments JTP-2 and JTP-7.

Q: Did Petitioner's 2017 revenue bond and E&R revenue requirement fully fund its 2017 to 2020 CIP as presented in Cause No. 44760?

A: No. Petitioner limited its funding request to $60,705,500 for 48 CIP priority

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[1] *Water Master Plan*, HNTB Corporation, September 2016, page 2-3.

[2] Petitioner response to OUCC Data Requests 6-41 to 6-44 regarding design flows and demand growth. *See* Attachment JTP-1.

[3] Cause No. 44760 projects were listed in six categories: PRK-3 Distribution System ($79 M for 91 projects and 5 annual programs for hydrants, valves, etc.); PRK-4 Vehicles ($1.5 M for vehicles and dump trucks); PRK-5 Utility Office Equipment ($136,000); PRK-6 Utility Heavy Equipment ($358,350 for backhoes and other heavy equipment); PRK-7 Relocations ($16.5 M for two named projects and unspecified annual INDOT relocations); and PRK-8 New Groundwater Treatment Plant ($10.65 M for Preliminary Engineering and property acquisition for a new 60 million gallons per day ("MGD") groundwater treatment plant).

projects. Funding consisted of $35,205,500 from a revenue bond and $25,500,000 from E&R revenue requirements.[4, 5] Therefore, $47,401,737 in 2017 to 2020 CIP projects were not funded. ($108,107,237 - $60,705,500 = $47,401,737).

Q: Did Petitioner identify which CIP projects it intended to complete with the requested $60,705,500?

A: Yes. In response to discovery in Cause No. 44760, Petitioner stated it prioritized its CIP. Petitioner submitted its project prioritization in a spreadsheet titled *EWSU Project Priority List - IURC Cause No. 44760 Data Request Set No. 2.*[6] The 2017 to 2020 projects were prioritized to 48 projects down from the original 105 requested. All projects removed were distribution system projects.

Q: What is the current status of Petitioner's 2017 to 2020 CIP projects?

A: It appears Petitioner is delayed in completing its projects slated for 2017 and 2018. Evansville has completed 24% of the 34 projects and only 18% are under construction, so less than half of the projects are completed or under construction. In response to discovery in this case, Evansville provided the status of the projects identified in Cause No. 44760.[7] I also reviewed project status from Petitioner's *Refresh Evansville* website.[8] The project status summary is shown in Table 1.

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[4] Evansville will only have $35,205,500 of the $40 million bond available to fund capital improvements because it is prefunding its debt-service reserve ($3,463,900) and will incur bond issuance costs of $1,330,600. ($40,000,000 - $3,463,900 – $1,330,600 = $35,205,500)

[5] Evansville will recover $25,500,000 in E&R revenue requirement based on Phase 1 ($4.5 Million in Year 1) and Phase 2 ($7.0 Million in Years 2-4). ($4.5 M for 2017 + $7.0 M times 3 (for 2018-2020) = $25.5 M).

[6] The spreadsheet provided in response to OUCC Data Request No. 2.3 was included in OUCC Witness Carl N. Seals Testimony as Attachment CNS-5 in Cause No. 44760 and is being provided again in this Cause. *See* Attachment JTP-2.

[7] *See* Attachment JTP-3 for Petitioner's response to OUCC DR 3-12.

[8] https://www.refreshevansville.com/

Table 1
Main Replacement Projects Sought and Completed from Cause No. 44760

Project Status	2017 Projects		2018 Projects		Overall %
	No.	%	No.	%	
Completed	5	31%	3	17%	24%
Under construction	2	12%	4	22%	18%
Delayed	6	38%	5	28%	32%
Design only encumbered[9]	3	19%	5	28%	23%
Removed	0	0%	1	5%	3%
Total Projects	16	100%	18	100%	100%

Most of the water main replacement projects identified in Cause No. 44760 (30 of 34 projects) were to be completed in 2017 and 2018. But Petitioner has not been able to meet its proposed completion years for these projects. Petitioner noted in its response to OUCC DR 3-12 that the 4-year CIP plan extends until 2020 and that Evansville is currently only in Year 2 of the 4-year plan. Petitioner indicated it anticipates undertaking additional main replacement projects in the latter two years of the program.

Q: Did Petitioner complete preliminary engineering and land acquisition for the new water treatment plant, estimated at $10.65 million?

A: No. This work was to also have been completed in 2017 and 2018. Petitioner indicated no preliminary design costs were actually incurred in 2016, 2017, or 2018 since no preliminary design work has been completed.[10] However, Petitioner has completed drilling activities to assess groundwater quality and potential yields for

[9] It is unclear how far along the design is for projects marked as "Design only encumbered" or whether design funds have only been encumbered by Evansville's Controller prior to issuing the Notices to Proceed to the design consultants.
[10] *See* Petitioner's response to OUCC Data Request 5-23 in Attachment JTP-4.

a new wellfield located southeast of the existing water filtration plant to the north of Waterworks Road and west of US 41.

Q: What are the total project costs for projects completed and under construction and how does this compare to the requested funding?

A: It appears Petitioner has completed water main replacement projects for $4,354,477 with an additional $13,567,660 in projects under construction.

Q: Did Petitioner explain why it has not completed the projects identified in Cause No. 44760?

A: A partial explanation may be found in the testimony of Petitioner's witness, Douglas Baldessari. Mr. Baldissari explained that Evansville delayed projects in order to build up its cash reserves.

> At the time of the issuance of the 2016A and 2016B bonds, the Petitioner did not have adequate balances in the operating or improvement funds. In order for the Petitioner to maintain their "A+" rating, it was determined that the cash balances in the operating and capital improvement funds would need to be maintained at adequate levels. <u>During first half of 2017, the Petitioner built up their cash balances to the necessary levels by delaying rate funded capital expenditures</u>. In addition, the Petitioner evaluated their revenues as they came in during the summer months of 2017 and determined that they were meeting expectations. Since the Petitioner was able to build up the cash balances in early 2017 and also see anticipated revenues materialize it allowed them to lift the temporary restriction on capital expenditures. During the latter half of 2017 the Petitioner evaluated capital needs and began bidding out projects. The Petitioner plans to spend the remainder of the 2017 budget in addition to the 2018 budget by the end of 2018.[11]
>
> (emphasis added.)

Evansville only expended $1,072,644 through the twelve months ended September 30, 2017.

[11] Petitioner's Exhibit No. 1, Direct Testimony of Douglas L. Baldessari, CPA, pages 26-27

Q: Can Petitioner complete the 2017 / 2018 projects before 2019?

A: It seems unlikely. Again, design has not yet begun on more than half of the water main projects because they were delayed to this Cause or have a design only encumbered status. Indeed, eleven of the Cause No. 44760 projects are shown to have been placed in the 2019 Water Rate Case.[12] It is unlikely Petitioner can complete design, bidding, and construction of these 19 projects yet this year.

IV. CAPITAL IMPROVEMENT PROGRAM UNDER CAUSE NO. 45073

A. Capital Projects

Q: Has Petitioner identified additional capital improvement projects in this case to support its borrowing and E&R revenue requirement?

A: Yes. Mr. Keepes presented Petitioner's proposed 2019 to 2021 capital improvement projects in Attachments PRK-2 through PRK-6 listing 84 specific and 14 annual (e.g. annual vehicles, annual meters) projects, and costs by year. [13]

Q: Are you able to determine whether the proposed projects are prudent and reasonable from Petitioner's Case-In-Chief?

A: No. Unlike prior project listings, Petitioner did not include project descriptions. Petitioner listed only project names, a single line estimated cost (no detail), and year.[14] Petitioner did not include in its testimony any engineering study, Master Plan, or Preliminary Engineering Reports for the projects which the OUCC could review to understand project need, costs, and use to determine reasonableness. Petitioner did not provide any detailed cost estimates in its Case-in-Chief.

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[12] *See* Petitioner's response to OUCC DR 3-12 in Attachment JTP-3.
[13] Cause No. 45073 projects were in five categories including PRK-2 Distribution, PRK-3 Booster Stations, PRK-4 Treatment Plant, PRK-5 Wholesale Customer Projects and PRK-6 Annual Capital Improvements
[14] *See* Petitioner's Exhibit No. 2, Attachments PRK-2 through PRK-6.

Petitioner also did not list project numbers as it has done previously in prior rate cases before Cause No. 44760. Without project numbers it is cumbersome to review projects listed again in this Cause or projects that have been delayed, reprioritized, or consolidated into other projects. My experience is that municipalities typically assign specific project numbers to projects to assist in tracking the work. CIP Project Numbers were listed for all projects in the 2009 *Water Master Plan,* prepared by HNTB.

Q: Did Petitioner explain why it did not show project numbers?

A: Yes. In response to discovery asking Petitioner to provide the CIP Project Number for each project listed, Petitioner stated:

> There are no CIP numbers – EWSU assigns project numbers to capital projects upon commencement of design.[15]

This response calls into question Petitioner's assertion that the delayed 2017 and 2018 projects from Cause No. 44760 will be completed by the end of 2018. If so, these projects should at least be under design with assigned project numbers. This also applies to thirteen Cause No. 44760 priority projects Petitioner relisted in Cause No. 45073 with a 2016 total estimated project cost over $17.5 million. Design should be underway or begin soon to allow bidding this year or early next year in time for the 2019 construction season.

Q: Did Petitioner previously receive funds for these delayed projects from Cause No. 44760?

A: Yes. Most of the $60.7 million authorized in Cause No. 44760, nearly $47 million, was for 2017 and 2018 projects, and the remaining $13.7 million was for 2019 and

[15] Petitioner's response to OUCC DR 7-1. See Attachment JTP-5.

2020 projects.

Q: How is Petitioner proposing to fund its 2019 to 2021 capital improvements?

A: Of its $157.3 million projected spend on capital improvements in its three year CIP, Petitioner plans to borrow $132,361,824 and acquire the remaining $24,970,707 through its E&R revenue requirement of $7,082,162 (Phase I), $8,344,444 (Phase II), and $9,544,191 (Phase III).

Q: Do you agree Petitioner will be able to complete the proposed projects at the pace indicated in Attachments PRK-2 through PRK 6?

A: No. The pace and number of water main projects Petitioner seeks in this case far exceeds that indicated by Petitioner's history of completing main replacements. I agree Petitioner should accelerate replacement of aging water mains, but Evansville's large spike in the pace of projects is not, in the near term, realistically attainable. Nor is such an immediate increase in the pace of such projects desirable.

Q: Why do you consider the pace of projects indicated in Petitioner's case to be unattainable in the short term?

A: Petitioner averaged $5.4 million in transmission and distribution system additions between 2014 and 2017 based on my review of pages W-3(a) and W-3(c) of Petitioner's Annual Reports to the Commission. Petitioner averaged less than $1.9 million in annual main relocations and approximately $2.4 million in main replacements as shown in Table 2.

Petitioner may be unable to find sufficient contractors to complete its program on the schedule it proposes. Rather, the replacement program should be ramped up consistent with contractor capacity with the goal of a steady program that cost effectively replaces water mains. Petitioner indicated it has had to reach out to contractors to increase the number of firms bidding on their projects in order

Table 2
Additions to Utility Plant in Service
Transmission and Distribution Mains

Year	Additions	Balance	Developer Mains and Non Trans / Distribution	Relocations	WM Replacement / Extensions
2014	$1,997,328	$82,908,227	$534,158	$424,282	$1,038,888
2015	1,585,131	84,493,358	207,467	971,829	405,835
2016	11,301,822	95,795,180	1,567,619	5,725,961	4,008,242
2017	6,689,195	102,484,375	1,955,638	511,650	4,221,907
Avg.	$5,393,369		$1,066,221	$1,908,431	$2,418,718

to foster competitive bidding and control overall costs to the Utility. *See* Attachment JTP-6 for Evansville's Contractor Outreach materials.

Q: Why is an immediate increase in the pace of such projects undesirable?

A: If Evansville bids too many projects above what contractors can perform, bids will rise and escalate costs to ratepayers. Evansville's water main replacement program needs to be ramped up more gradually to be commensurate with contractors ability to perform the work.

Q: What level of main replacements is Petitioner proposing for 2019 to 2021?

A: Petitioner indicates it plans to spend $110.5 million ($36.8 million per year on average) for water main replacements and relocations over 2019-2021.[16] This level of main replacement work is over eight times greater than Evansville's historical replacement level of $4.3 million.[17]

[16] Petitioner's Attachment PRK-2 lists 45 projects and annual relocations (unknown locations) for $107,535,200 plus Attachment PRK-6 identifies 11 other water main projects for $2,953,000.
[17] Calculated as $110.5 million / 3 years equals $36.8 million per year compared to 2014-2017 average spending of $4.3 million. ($36.8 million / $4.3 million equals 8.6)

Q: Were you able to determine whether Petitioner's estimated project costs were reasonable?

A: No. Petitioner's Case-in-Chief did not include any cost support for the estimated project costs. However, through discovery and information from DWRSF program staff at the Indiana Finance Authority, the OUCC obtained additional reports, studies and cost information for some of Petitioner's capital projects.

Q: What additional information were you able to locate and review about Petitioner's capital project costs?

A: I reviewed the documents listed in Table 3. I have included several of these documents as attachments to my testimony. Due to their size I did not include larger documents such as the 1,278 page "PER A."

Table 3
Water Main Projects – Information Sources

Doc. No.	Document Name	Doc. Date	Attach. No.
1	*Evansville Utility Master Plans Water and Sewer Utility Volume 2 – Water Master Plan*	10/2009	
2	Cause No. 44760 - Petitioner's Attach. PRK-3	3/29/2016	JTP-7
3	*Water Master Plan*, to OUCC - DR 3-11	9/2016	
4	Cause No. 45073 - DR 3-12 response - Actual Cause No. 44760 work completed	6/29/2016	JTP-3
5	Cause No. 45073 - Petitioner's Attach. PRK-2	3/26/2018	
6	Drinking Water SRF Application (from SRF)	4/25/2018	JTP-8
7	DWSRF *Prel. Eng. Report* ("*PER-A*")	6/15/2018	
8	Water Main Projects List submitted to DWSRF	12/22/2017	JTP-9
9	Water Main Projects List to OUCC - DR 7-1	7/11/2018	JTP-5

Most of these documents existed before or near the date when Petitioner filed its Case-in-Chief. It would have been helpful to have them included in Petitioner's testimony. Please note "PER A," detailing 25 projects for $85,185,358, is the first

of three PERs Petitioner anticipates filing with the DWSRF program. I understand "PER B" and "PER C" are not complete but "PER B" is nearing completion.

Q: What did your review of the additional project information show?

A: Petitioner's loan application to the DWSRF (Document 6) and the "PER A" (Document 7) show different financing amounts and number of bonds than Petitioner indicated in its Case-in-Chief. OUCC witness Edward Kaufman discusses this discrepancy in his testimony.

Petitioner has also increased individual project costs from costs shown in the 2016 *Water Master Plan* and Cause No. 44760. Based on Petitioner's total cost estimates and water main lengths presented in this Cause, I have calculated that the average unit cost (2017 dollars) to replace one foot of water main would be $391.[18] The unit cost in Cause No. 44760 was $171 for 17 projects for which main lengths were shown in the project description.[19] Based on the comparison of Cause Nos. 44760 and 45073 total project costs, it appears Petitioner has more than doubled estimated project costs.

Q: How did you calculate Petitioner's unit cost to replace water mains?

A: Based on Petitioner's response to OUCC data Request 7-1, Petitioner provided the water main replacement and relocation program costs (2017 dollars basis) and lengths to be replaced by year shown in Table 4. For my comparison, I excluded the $5,142,500 (2017 Dollars) Waterworks Road - (4) 30" Water Main Relocations

[18] To give a broad measure of water main replacement costs for use in showing cost escalation, average unit costs are derived by dividing total project cost or construction cost, as the case may be, by the total length of water mains regardless of size.

[19] The unit cost for the 17 water main projects in Cause No. 44760 (Attachment PRK-3) where length of pipe was listed was calculated as $7,085,628 divided by 41,422 feet equals $171 per foot of main.

1 project because the higher costs for large diameter transmission mains are not
2 representative of typical water main replacements for normal main sizes of 4-inch
3 to 16-inch. I wanted to broadly compare the costs for similar sized water main
4 projects. *See* Attachment JTP-5 for Petitioner's response to OUCC DR 7-1.

Table 4
Refresh Evansville
Water Main Projects 2019 to 2021

Estimated Total Project Costs and Water Main Lengths

Year	Total Cost (2017 Dollars)	Total Lineal Feet	Total Miles	Unit Cost ($ / LF)
2019	$29,630,320[20]	73,420[21]	13.9	$404
2020	$28,974,300	78,140	14.9	$371
2021	$31,727,480	79,680	15.1	$398
Total	$90,332,100	231,240	43.8	$391

5 Unit costs per foot of water main calculated for normal sized water main projects
6 is a broad benchmark which I used to compare how Petitioner's costs have escalated
7 between its rate cases, Master Plans, and filings made for project funding.

8 **Q: Did you also compare project cost increases for specific projects?**

9 A: Yes. I analyzed a sampling of Cause No. 45073 projects. These five projects have
10 all been delayed from Cause No. 44760 and are summarized in Table 5. Petitioner
11 increased the estimated total project costs by an average of 81% between the 2016

[20] Excludes the $5,142,500 (2017 Dollars) Waterworks Road - (4) 30" Water Main Relocations due to the higher cost that is not representative of typical water main replacement costs for normal main sizes of 4-inch to 16-inch. Calculated as $34,772,720 in 2017 Total Project Cost minus $5,142,500 equals $29,630,320.
[21] Excludes 5,000 feet of water main for the Waterworks Road - (4) 30" Water Main Relocations.

and 2017 estimates. This increase appears to be excessive. *See* Attachment JTP-10 for cost summary sheets for these five water main projects.

Table 5
Comparison of Project Cost Estimates – Cause Nos. 44760 and 45073

No.	Project	Cause No. 44760 Cost (2016 Dollars)	Cause No. 45073 Cost (2017 Dollars)	Cost Escalation
3	Presidents Neighborhood	$4,050,650	$8,243,400	104%
4	Sweetser Rotherwood Area	$3,584,800	$5,142,000	43%
6	Washington & 2nd - Relocation	$646,700	$1,559,600	141%
7	Hogue Road, New Harmony Road and Harmony Way	$4,675,985	$7,259,200	55%
24	Fendrich Neighborhood	$740,000	$2,546,400	244%
	Total	$13,698,135	$24,750,600	81%

I also compared the unit cost for these five projects by dividing the 2016 and 2017 total project cost estimates by the water main length. I summarize the unit costs I calculated in Table 6.

Table 6
Comparison of Unit Costs – Cause Nos. 44760 and 45073

No.	Project	Length (feet)	Cause No. 44760 Unit Costs (2016 Dollars)	Cause No. 45073 Unit Costs (2017 Dollars)
3	Presidents Neighborhood	20,400	$199	$404
4	Sweetser Rotherwood Area	15,800	$227	$325
6	Washington & 2nd - Relocation	2,300	$281	$678
7	Hogue Road, New Harmony Road and Harmony Way	20,500	$228	$354
24	Fendrich Neighborhood	6,700	$110	$380
	Total or Average	65,700	$208	$377

Q: Do you agree with Petitioner's estimated total project costs as shown in Table 4 and Attachment JTP-5?

A: No. I compared my calculation of Petitioner's water main replacement unit costs to actual Engineer's Estimates and actual low bid construction prices for Petitioner's five most recent water main projects in 2018. See Attachment JTP-11 for a summary of Engineer estimates and Low Bids. See also Attachment JTP-12 for copies of the Engineer Estimates and Bid Tabulations for the five 2018 water main projects. This calculation, summarized in Table 7, shows the $333 average cost per foot of water main calculated from the Engineer's Estimates is over 50% higher than the $220 average cost per foot derived from actual low bid prices. These are for construction costs only and do not include non-construction costs such as design, inspection, and program management costs.

Table 7
Comparison of Construction Costs - Water Main Projects 2018
Engineer's Estimates and Actual Competitive (Low Bid) Prices

Engineers' Estimates (all five projects)	
Total Estimated Construction Cost	$11,065,868
Total Water Main Length (lineal feet)	33,209
OUCC Calculated Eng. Estimate Cost per LF	$333
Actual Low Bid Prices (all five projects)	
Total of Low Bids	$7,911,621
Total Water Main Length - LF	35,957
OUCC Calculated Bid Cost per LF	$220

Petitioner also provided actual total project costs for main replacements, new mains, and relocated mains from 2014 to 2018. (Petitioner's response to OUCC DR 5-33, See Table 8 below.) I calculated the unit cost per foot of main and

1 tabulated the results in Table 8 for 2014 to 2017, but I excluded 2018 data because
2 Petitioner's reported main length at 14,500 lineal feet ("LF") appears to be low and
3 does not match the 35,857 LF main length for the five most recent (2018) projects
4 provided in response to OUCC DR 5-28. The 2018 low bid unit cost in Table 7 at
5 $220 per foot is comparable to the $253 unit cost for 2014-17 in Table 8.

Table 8
Actual Total Project Costs for Water Mains 2014 to 2017
Based on Petitioner's Response to OUCC DR 5-33

2014	**Total Cost**	**Total Length**	**Cost / Ft[22]**
Main Replaced	$1,071,754	6,617	$162
Main New	$11,000	284	$39
Main Relocated	$584,031	3,582	$163
2015	**Total Cost**	**Total Length**	**Cost / Ft**
Main Replaced	$1,964,816	9,747	$202
Main New	$470,893	1,740	$271
Main Relocated	$3,051,477	8,114	$376
2016	**Total Cost**	**Total Length**	**Cost / Ft**
Main Replaced	$2,077,570	11,211	$185
Main New	$349,345	2,720	$128
Main Relocated	$1,867,849	10,106	$185
2017	**Total Cost**	**Total Length**	**Cost / Ft**
Main Replaced	$6,920,724	25,654	$270
Main New	$36,850	380	$97
Main Relocated	$6,042,622	16,443	$367
Total 2014 to 2017	**Total Cost**	**Total Length**	**Cost / Ft**
Main Replaced	$12,034,864	53,229	$226
Main New	$868,088	5,124	$169
Main Relocated	$11,545,979	38,245	$302
Total	$24,448,931	96,598	$253

[22] The OUCC calculated the unit costs based on total costs and total lengths Petitioner provided in response to OUCC DR 5-33.

Q: As a result of your analysis, what conclusion did you reach?

A: Petitioner's total project cost estimates appear to be overstated by approximately 45% above actual total project costs.

Q: What has caused the project estimates to be overstated?

A: Petitioner's total project cost estimates began with an Engineer Estimate for construction costs even though Petitioner has actual local bid data it could have used instead. The Engineer Estimates appear to be over 50% higher than actual bids (See Table 7). For non-construction costs, Petitioner applied an additional 22.6% in costs, which can be broken down into design (10%), program management (3%), and construction engineer/resident project representative (inspection service) (9.6%) cost percentages to the Engineer Estimate to set total project costs. For instance, starting with actual bid unit costs of $220 per foot of main replaced (Table 7) and adding 22.6% of non-construction costs results in an estimated project cost of $270 per foot of main. Petitioner's $391 total project cost per foot of main calculated in Table 4 is therefore 45% higher than costs derived from actual bid prices.[23] Based on my experience, Petitioner's assumed 9.6% for inspection services appears to be overstated.

[23] Calculated as $391 per foot of main minus ($220 per foot (actual bids) times 1.226) divided by ($220 per foot times 1.226) equals 45%.

B. <u>Clearwell and High Service Pump Station project</u>

Q: Petitioner seeks funding to construct a new 6 MG Clearwell and High Service Pump Station #4 at an estimated cost of $18 million. Why does Petitioner plan to build the clearwell?

A: Mr. Keepes indicates that since Evansville has not completed its alternative water source investigation, it must build the clearwell and high service pump station to "perform maintenance, inspection and repairs on the existing 6.5 million gallon clear well (that is 50 years old) and create redundancy in the system."

Q: Has the existing 6.5 M Clearwell been inspected?

A: In 2011, Petitioner did have the 6.5 MG clearwell inspected by Pittsburg Tank & Tower Co., Inc. The results of that inspection indicated that some repairs to ladders, curbing and crack grouting are recommended. However, it appears that these repairs can be performed during non-peak periods where Petitioner's other two clearwells can be kept in service. No major structural deficiencies were noted, and no other tank inspections by engineering firms appear to have been completed. *See* Attachment JTP-13 for the 2011 6.5 M Clearwell Inspection report.

Q: What is your position regarding the reasonableness of the proposed capital projects?

A: After reviewing all the additional documentation listed in Table 6, which was not provided in Petitioner's case-in-chief, I consider the water main replacement projects to be reasonably necessary. However, my review and analysis indicates Petitioner's estimated cost for the distribution system projects are overstated. I also concluded that the proposed timeframe for completion is unattainable. Therefore, I support OUCC Witness, Edward Kaufman's recommendation to reduce the amount of funding for distribution system improvements to a more reasonable

amount that can actually be completed during the next three-years.

In addition, I do not recommend Petitioner receive funding at this time to construct the new $18 M clearwell and High Service Pump Station. Petitioner's only justification is the need for redundancy for the existing 6.5 MG clearwell. Petitioner indicates that it still has not made a decision as to whether to proceed with a new ground water treatment plant or whether to upgrade its existing facility and continue to use the Ohio River as a source of supply.

V. RECOMMENDATIONS

Q: What do you recommend for estimating water main replacement costs?

A: Petitioner should use actual costs from prior bids to estimate and budget for projects. This should improve the accuracy of budgeting, financing requests, and setting engineering design fees. I recommend Petitioner's Engineering Department track actual costs and maintain an in-house cost database if this is not being already done. Evansville will be completing numerous water main replacements. Setting project budgets based on a database of Evansville's costs derived from actual bids is more accurate than the Engineer's Estimates Petitioner currently uses to set budgets.

The actual cost database could have a unit cost per foot of water main metric as I have calculated here in my testimony as well as specific line item costs for typical water main component costs such as 8-inch C900 PVC water main installed, service connection, hydrants, etc. The City's water main cost database would also

be useful in evaluating bids when bid prices come in over the estimated amount to determine what caused the high bid.

Q: What do you recommend regarding reporting by Petitioner about its water main replacement program?

A: Petitioner should not use funds justified on the basis of specific projects for other projects not identified in this Cause. I recommend Petitioner annually submit a capital improvements reconciliation, setting forth the projects completed, improvements actually implemented, and the costs thereof. To the extent planned projects, including water main replacement and relocation projects, are completed for less than the estimates included in Petitioner's case-in-chief, Petitioner should use the savings in a prudent manner toward the completion of only other needed water main replacement projects identified in the 2016 Water Master Plan at the discretion of Petitioner.

I also recommend that Petitioner be restricted to using funds approved for specific projects identified under this Cause to those projects only or for additional water main replacement projects identified in the 2016 Water Master Plan and not for other projects such as a new water treatment plant.

Q: Does this conclude your testimony?

A: Yes.

Appendix A

Q: Please describe your educational background and experience.

A: In 1980 I graduated from Purdue University, where I received a Bachelor of Science degree in Civil Engineering, having specialized in Environmental Engineering. I then worked with the Peace Corps for two years in Honduras as a municipal engineer and as a Project Engineer on self-help rural water supply and sanitation projects funded by the U.S. Agency for International Development (U.S. AID). In 1984 I earned a Master of Science degree in Civil Engineering and Environmental Engineering from Purdue University. I have been a Registered Professional Engineer in the State of Indiana since 1986. In 1984, I accepted an engineering position with Purdue University, and was assigned to work as a process engineer with the Indianapolis Department of Public Works ("DPW") at the City's Advanced Wastewater Treatment Plants. I left Purdue and subsequently worked for engineering consulting firms, first as a Project Engineer for Process Engineering Group of Indianapolis and then as a Project Manager for the consulting firm HNTB in Indianapolis. In 1999, I returned to DPW as a Project Engineer working on planning projects, permitting, compliance monitoring, wastewater treatment plant upgrades, and combined sewer overflow control projects.

Q: What are the duties and responsibilities of your current position?

A: My duties include evaluating the condition, operation, maintenance, expansion, and replacement of water and wastewater facilities at utilities subject to Indiana Utility Regulatory Commission ("Commission") jurisdiction.

Q: Have you previously testified before the Commission?

A: Yes.

Appendix B - List of Attachments

Attachment JTP-1	Petitioner responses to OUCC Data Requests 6-41 and 6-44 regarding future water demand
Attachment JTP-2	Petitioner responses to OUCC Data Request 2-3 regarding capital project prioritization under Cause No. 44760
Attachment JTP-3	Petitioner response to OUCC DR 3-12 regarding the status of the priority projects under Cause No. 44760
Attachment JTP-4	Petitioner responses to OUCC Data Request 5-23 regarding the new water treatment plant
Attachment JTP-5	Water Main Projects List submitted to the OUCC - DR 7-1
Attachment JTP-6	Contractor Outreach
Attachment JTP-7	Cause No. 44760 - Petitioner's Attachments. PRK-3 to PRK-8
Attachment JTP-8	Drinking Water SRF Application, dated April 25, 2018 (from SRF)
Attachment JTP-9	Water Main Projects List spreadsheet, dated Dec. 22, 2017 submitted to DWSRF
Attachment JTP-10	Cost Estimate Summary Sheets for Five Cause Nos. 44760 and 45073 Water Main Projects
Attachment JTP-11	Summary of Engineer's Estimates and Low Bid Construction Prices for Five 2018 Water Main Projects
Attachment JTP-12	Bid Tabulations – Water Main Replacement Projects (Petitioner's attachments in response to OUCC Data Request 5-28)
Attachment JTP-13	2011 Inspection report for the 6.5 MG Clearwell

Appendix C – Description of the Evansville Water System

Q: What are Petitioner's characteristics?

A: Petitioner currently owns and operates plant and equipment for the production, transmission and delivery of potable water to the public in and around the City of Evansville in Vanderburgh County, Indiana and to three wholesale water customers; Gibson Water, Inc., German Township Water District, and the Town of Elberfeld (two connections). Petitioner's system is connected to but does currently sell water to the Newburgh, IN operations of Indiana-American. The City also provides public and private fire protection service and has approximately 6,000 fire hydrants. The municipally owned Evansville Water and Sewer Utility operates as a City Department under the Water and Sewer Utility Board oversight. The five Board members are appointed by the Mayor of Evansville. The Utility provided water service in 2017 to 62,631 customers[24] representing an estimated population of 162,000, including residents in German Township, Gibson County, and the Town of Elberfeld. Vanderburgh County's 2017 estimated population is 181,616.[25] The Utility's customer base has slowly grown 0.3% annually (3.5% in the last decade), but according to Utility data from its Annual Reports to the IURC, water production and water sold have been relatively flat as summarized in Table 1.

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24 At the end of 2017, Evansville's customers included 58,723 residential, 3,548 commercial, 121 industrial, and 235 public authorities metered accounts. 2017 Annual Report to the IURC, page W-1.

[25] The 2017 population served estimate reported to the Indiana Department of Environmental Management ("IDEM") of 162,000 people includes up to 118,930 people in the City of Evansville (based on population forecasts by the Indiana Business Research Center), 650 people in Elberfeld, Indiana and 42,420 people located outside Evansville's corporate limits.

Table 1 – Customers, Water Pumped from Wells, and Water Sold, 2008 to 2017

	Customers					Water Pumped (MGD) [26]	Water Sold (MGD)	Non-Revenue Water
Year	Resident.	Commer.	Indust.	Other	Total			
2008	58,242		2264	4	60,510	26.1	20.7	5.7
2009	58,469		2249	4	60,722	22.3	18.9	3.4
2010	58,361		2250	4	60,615	22.9	20.3	2.6
2011	58,593		2245	4	60,842	23.7	18.9	4.8
2012	58,880		2260	4	61,144	25.5	20.3	5.2
2013	59,374		2274	4	61,652	21.4	18.3	3.1
2014	58,243	3,021	89	214	61,567	22.3	18.1	4.2
2015	58,160	3,536	102	215	62,013	22.1	18.5	3.6
2016	58,618	3,548	104	221	62,491	23.2	17.7	5.5
2017	58,723	3,548	121	239	62,631	22.2	17.6	4.6
Average 2008 - 2017					61,419	23.3	19.1	4.2

Q: Where does Evansville obtain its water?

A: Evansville's Water Utility has been drawing surface water from the Ohio River at approximate river mile 791.5 just upstream of downtown since the 1870s.

Q: How does Evansville treat its surface water?

A: The raw river water is screened to remove large debris by passing through three travelling screens, and pumped via six low service pumps to treatment. The plant utilizes poly-aluminum chloride, caustic (sodium hydroxide) for pH control, and powder activated carbon (if needed) for raw water conditioning. Potassium permanganate is added to the raw water for taste and odor control, reduction of nuisance organisms, and minimization of disinfection by-products formation.

[26] MGD means million gallons per day. MG means million gallons.

Petitioner provides conventional treatment with coagulation, flocculation, primary settling, secondary settling and rapid rate gravity filtration on twenty four (24) mixed media (gravel, sand, and anthracite coal) filters. Treatment produces an excellent finished water with low turbidity levels consistently below 0.1 NTU.[27] Evansville does not remove iron or manganese or soften its water since Ohio River water is naturally low in hardness, iron, an manganese. Evansville reports the finished water's average hardness in 2017 was 124 parts per million.[28] The finished water is also disinfected and fluoridated.

Q: Please describe Evansville's finished water quality

A: Evansville consistently produces excellent quality water, as documented in its Monthly Reports of Operation for the Water Treatment Plant and its Annual Consumer Confidence Reports. Moreover, Petitioner's monitoring reports and test results indicate compliance with the Safe Drinking Water Standards.

Q: How does Evansville distribute finished water to customers?

A: From the water filtration plant, finished water flows to three interconnected clearwells with a total volume of 8.5 MG and High Service Pump stations Nos. 2 and 3. The seven High Service Pumps push finished water from the clearwells through several large diameter transmission mains to four pressure zones in the distribution system, six Booster Stations and eight finished water storage tanks including the buried concrete 20 MG Campground Reservoir built in 1927 and the

[27] Nephelometric Turbidity Units – used to express turbidity levels for water cloudiness caused by particles. The EPA's Surface Water Treatment Rule requires utilities using conventional filtration to have turbidity no higher than one NTU. Samples for turbidity must be less than 0.3 NTU in at least 95 percent of samples in any month. Evansville has monitored filtered water turbidities from each of its 24 filters since 2002.
[28] 2017 Consumer Confidence Report.

4 MG Killian steel aboveground reservoir. Elevated water storage (and year installed) includes four 500,000 gallon tanks (Lincoln - 1967, Upper Mt. Vernon - 1971, Grimm Road - 1974, and USI - 2010), one 1 MG tank (New Harmony or Darmstadt - 1974), and one 1.5 MG tank (Volkman -1999). Total storage capacity in the distribution system is 28.5 MG. Combined with the existing clearwells at the treatment plant, finished water storage capacity totals 37 MG.

Q: Please describe Evansville's transmission and distribution mains.

A: Evansville's water transmission and distribution network includes approximately 1,015 miles of water mains ranging in diameter from 1-inch up to 60-inches. Water mains are primarily cast iron (45.3% or 460 miles) according to the 2016 *Water Master Plan.* The 460 miles of cast iron mains is below that reported by Mr. Keepes who stated Evansville has approximately 600 miles of cast iron with an estimated average age of approximately 90 years.[29] Evansville uses ductile iron and PVC pipe currently for replacement and new development mains. Evansville reports having primarily copper service lines although it also has 1,300 lead service lines. The distribution system materials and pipe ages (by decade) are summarized in Tables 2 and 3.

[29] Direct Testimony of Patrick R. Keepes, page 2.

Table 2
Length of Water Main by Material

Water Main Material	Total Length (feet)	Total Length (miles)	Percent of Total (%)
Cast Iron	2,429,643	460.2	45.3%
PVC	1,791,692	339.3	33.4%
Ductile Iron	764,326	144.8	14.3%
Asbestos Cement	90,267	17.1	1.7%
Concrete	64,761	12.3	1.2%
Steel	47,766	9.0	0.9%
Galvanized Steel	19,562	3.7	0.4%
Polyethylene	18,358	3.5	0.3%
Copper	2,682	0.5	0.05%
Unknown	130,114	24.6	2.4%
Total	5,359,171	1,015.0	100.0%

Table 3
Length and Percentage of Main by Installation Date

Mains Installed Prior To	Total Length (feet)	Percent of Total (%)	Cumulative Percentage (%)
1930	830,777	15.4%	15.4%
1940	992,138	3.0%	18.4%
1950	1,423,224	8.0%	26.4%
1960	2,030,424	11.3%	37.7%
1970	2,765,005	13.6%	51.3%
1980	3,087,299	6.0%	57.3%
1990	3,281,073	3.6%	60.9%
2000	3,354,734	1.4%	62.2%
2010	3,468,479	2.1%	64.4%
2015	3,472,901	0.08%	64.4%
Unknown	1,916,272	35.6%	100.0%
Total	5,389,173	100%	

Q: Did Evansville indicate future water demand over the next 20 years?

A: Petitioner did not provide evidence indicating the future water demand in its Case-in-Chief testimony. Evansville's consultant, HNTB Corporation, mentions future water demands in both the 2009 and 2016 *Water Master Plans*. For the twenty-year planning period to the year 2035, HNTB modeled the system for the average daily water pumped increasing by 9.3 MGD from the current 22.2 MGD (2017) to 31.5 MGD (2035).[30] This is a 42% increase over the actual 2017 average daily water pumped. HNTB forecasts maximum daily water usage increasing to 47.2 MGD by 2035. HNTB's future demand forecasts are based on projected land use from the *Evansville-Vanderburgh County Comprehensive Plan for 2015-2035* and assumed water usage per acre of land depending on land use (e.g. residential, industrial, commercial).[31]

In response to discovery, Petitioner estimated even higher future demand than shown in its 2016 *Water Master Plan* at 35.8 MGD average daily water pumped and 53.7 MGD maximum day flow.[32] Petitioner's flow forecasts provided in discovery are 61 % higher than the 2017 average daily water pumped. Petitioner did not explain why it now projects even higher future demands than what HNTB projected in its 2016 Water Master Plan. In fact, in response to OUCC DR 6-43(a), Petitioner provided a graph indicating a trending decrease in water volume sold to all customers over the past four years.

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[30] *Water Master Plan*, HNTB Corporation, September 2016, page 2-3.
[31] *Id.*, page 2-11
[32] Petitioner response to OUCC Data Requests 6-41 to 6-44 regarding design flows and demand growth. *See* Attachment JTP-1.

Q: Do you agree with the water demand forecasts by HNTB and Petitioner?

A: No. Both the HNTB and Petitioner's flow forecasts appear overstated. Based on Indiana Business Research Center population forecasts, Vanderburgh County should add 9,142 people between 2017 and 2035.[33] If all 9,142 people connected to Evansville's system and used water at the typical 100 gallons per capita per day ("gpcd"), increased demand would add less than 1 MGD to the current average daily production of 22.2 MGD. Wholesale water customer demand is likely to grow with Gibson Water, Inc. forecasting 05 to 1.5 MGD of additional need.[34] Based on the population forecast and a growth allowance for wholesale customers, Evansville's 2035 demand could exceed 25 MGD but should remain below the 31.5 MGD used in HNTB's system modeling and Petitioner's assumed 35.8 MGD. Capital improvements needed to meet future water demand by existing wholesale and new customers beyond Evansville's current service area should be funded by the wholesale and new customers.

Q: Have previous demand forecasts been realized?

A: No. Actual flows are 25% to 38% below the previous demand forecast. In the 2009 *Water Master Plan,* HNTB projected 2009 average day demand at 29.7 MGD and the 2018 demand at 36.1 MGD.[35] Actual 2009 usage was 22.3 MGD (25% below forecast) and 2017 usage (latest year of data) was 22.2 MGD (38.5% below forecast). *See* Table 1.

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[33] Calculated as the 2035 Vanderburgh County population of 190,783 people minus the 2017 estimated population of 181,616 equals 9,142 added population. Population data are taken from the Stats Indiana website http://www.stats.indiana.edu/topic/population.asp

[34] Petitioner's response to OUCC DR 7-2.

[35] 2009 *UTILITY MASTER PLANS Volume 2: Water Master Plan, page W 1-9.*

1 **Q: What is non-revenue water?**

2 A: For purposes of this discussion, non-revenue water is water that has been treated
3 and pumped into the distribution system but has been lost primarily through water
4 main breaks and service line leaks. As such, revenues have not been received for
5 that water. Non-revenue water also includes water used for flushing water mains,
6 fighting fires, and backwashing water filters.

7 **Q: How is non-revenue water calculated?**

8 A: Traditionally, a lost water percentage is calculated by subtracting water sold from
9 water pumped to determine non-revenue water in gallons. The non-revenue water
10 is then divided by the pumped water volume to yield a lost water percentage.

11 **Q: Does Evansville have a history of high levels of non-revenue water?**

12 A: Yes. Since 2008 Evansville has had average water losses of 18% of pumped flows.
13 Water losses peaked at 23% in 2015. In 2017 Evansville sold an average of 17.6
14 MGD but pumped 22.2 MGD. Non-revenue water was 4.6 MGD or 21%.
15 Accounting for main flushing, street cleaning, firefighting, and other authorized
16 usage, the percent water loss was 18.2% in 2017.[36] Water losses average over 4,000
17 gallons per day per mile of water main.[37] Evansville has also averaged 306 water
18 main breaks and 214 service line leaks over the 2015 to 2017 period.[38]

19 **Q: Has Evansville's lost water percentage increased in recent years?**

20 A: No. Evansville's lost water both in volume and lost water percentage has fluctuated

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[36] 2017 Annual IURC Report, page W-6.
[37] Calculated at 18.2% of 22.2 MGD pumped divided by 1,015 miles of mains equals 3,981 gallons per day per mile (rounded to 4,000 gallons per mile of main).
[38] Petitioner's response to OUCC DR 6-37.

between 12% and 23% over the 2008 to 2017 period.

Q: What do you conclude about Evansville's non-revenue water?

A: Evansville's non-revenue water is higher than desired and is caused by leaking, aged water mains that Evansville seeks to replace under its Refresh Evansville program. Evansville is also increasing its leak detection program to find, locate, quantify, and eliminate water main leaks, Evansville should continue with a long term continuous program to identify, reduce, and manage water losses. This program should include active leak detection, leak elimination and systematic replacements of problem water mains and service lines as planned in the capital improvements program.

OUCC DR 6-41

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Please provide the following water usage information for the Utility for the test year (10/01/16 – 09/30/2017):

a. Average daily demand.
b. Peak daily demand.
c. The elevated storage capacity of the distribution system.
d. The total storage capacity of the distribution system.
e. The gallons of water sold to all the wholesale customers and to each of the Utility's wholesale customers.
f. The total gallons of water sold to all the retail customers and to each of the 30 largest retail customers.

Information Provided:

a. The average daily demand from for the test year (10/01/16 – 09/30/2017) was 23.15 MGD.
b. The peak daily demand during the test year (10/01/16 – 09/30/2017) occurred on June 30, 2017 and was 31.15 MGD.
c. The elevated storage capacity of the distribution system is 4.5 million gallons.
d. The total storage capacity of the distribution system is 37.4 million gallons (this includes the two 200,000 gallon backwash tanks at the filtration plant and total clearwell storage of 8.5 million gallons).
e. See below for gallons of water sold to all the wholesale customers and to each of the Utility's wholesale customers.

Elberfeld 1	38,509,000
Elberfeld 2	21,452,000
Gibson	509,084,000
German	289,462,000
Newburgh	-
All Wholesale Customers	858,507,000

It should be noted that EWSU has an interconnection with Newburgh Indiana American Water for emergency purposes but there are no active sales.

f. The information requested for the 30 largest retail customers cannot be readily extracted in the time constraints with the limited available personnel resources.

OUCC DR 6-42

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Please provide the utility's design year water usage projections and as indicated:

a. Design Year
b. Projected average daily demand.
c. Projected peak daily demand.
d. The gallons of water projected sold to all the wholesale customers.
e. The total gallons of water projected to be sold to all the retail customers.

Information Provided:

a. The design year is 2035.
b. The design year projected average daily demand is 35.8 MGD.
c. The design year projected peak daily demand is 53.7 MGD (assumed at 1.5 times average daily demand).
d. The total gallons of water projected to be sold in the design year to all the wholesale customers is 1.75 billion gallons.
e. The total gallons of water projected to be sold in the design year to all the wholesale customers is 13.1 billion gallons.

OUCC DR 6-43

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Please provide the following information regarding the Utility's customer growth rate:

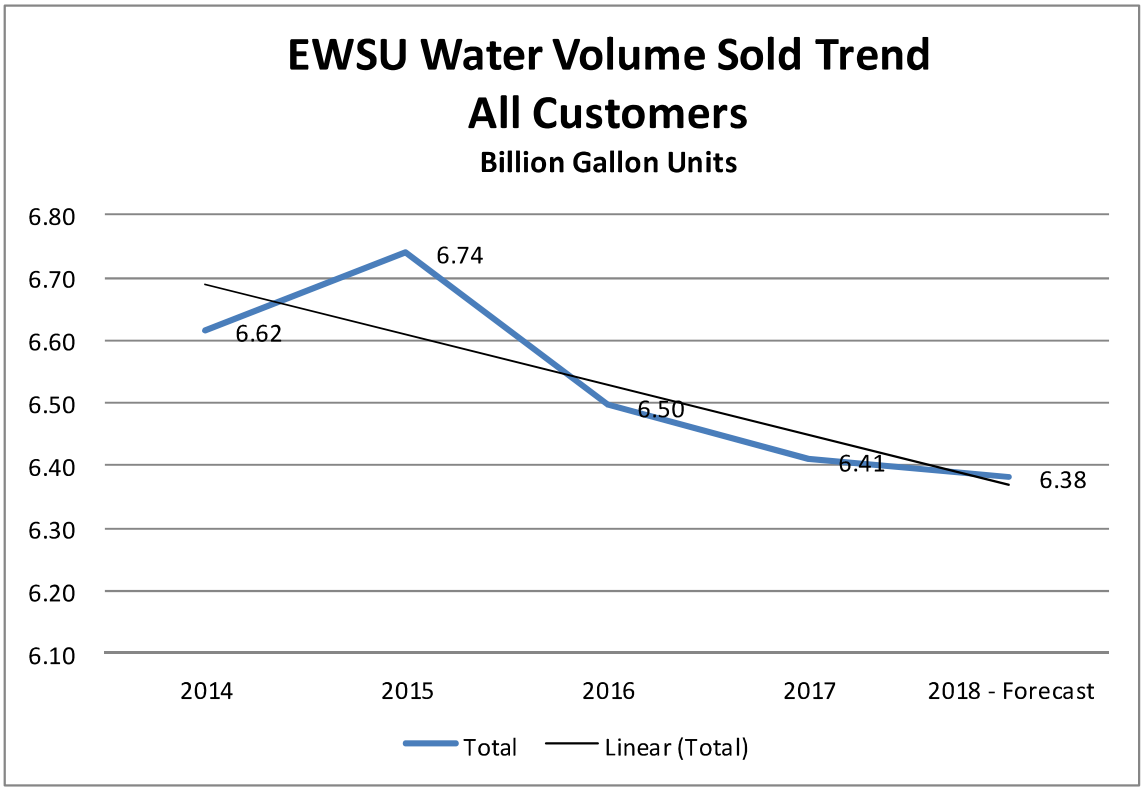
a. The Utility's growth rate during the test year.
b. Any future growth projection that the Utility has.
c. Any area additions that the Utility expects with the estimated timing.

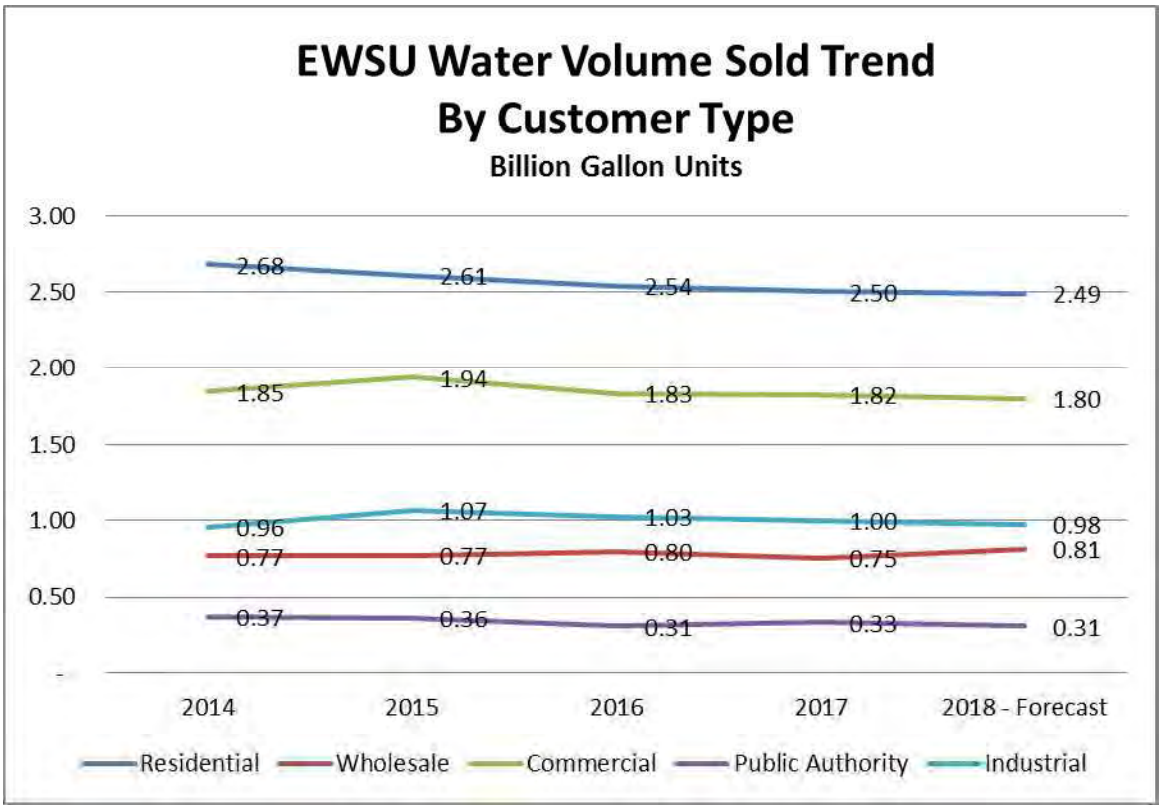
Information Provided:

a. The two charts below show the volume of water (in billion gallon units) projected to be sold in 2018 compared to actual gallons sold in the prior 4 years. The first chart is for all customers classes. The second chart shows past volume sold (in billion gallon units) and the 2018 forecast volume for residential, wholesale, commercial, public authorities and industrial customers. The "all customers" chart shows that water volume sold is trending down. The 2018 forecast is based on YTD water sold through May 2018.

Based on the 2018 forecast compared to the prior 4 year average, the trend would suggest that water volume sales are declining at an approximate average of 2.8% per year. However, it is commonly known that periods of low precipitation (primarily in summer and early fall months) can change the trend. A conservative estimate would be that water volume (thus revenue) will decline about 5% by 2021 versus 2018.

The Utility does not have a growth rate forecast specific to the test year.


EWSU Water Volume Sold Trend
All Customers
Billion Gallon Units
6.80
6.70
6.60
6.50
6.40
6.30
6.20
6.10
6.74
6.62
6.50
6.41
6.38
2014
2015
2016
2017
2018 - Forecast
Total
Linear (Total)


EWSU Water Volume Sold Trend
By Customer Type
Billion Gallon Units
3.00
2.50
2.00
1.50
1.00
0.50
-
2.68
2.61
2.54
2.50
2.49
1.85
1.94
1.83
1.82
1.80
0.96
1.07
1.03
1.00
0.98
0.77
0.77
0.80
0.75
0.81
0.37
0.36
0.31
0.33
0.31
2014
2015
2016
2017
2018 - Forecast
Residential
Wholesale
Commercial
Public Authority
Industrial

b. The Utility is currently experiencing a slight, short-term decline in water volume sold. Such decline will limit the Utility's ability to fund needed distribution system improvement projects. The Utility may see a slight increase in wholesale water sales related to Gibson Water. Gibson Water representatives have had discussions with EWSU about increasing their daily demands, but their specific needs are not fixed and known at this time.

c. EWSU does not expect to expand to any new areas.

OUCC DR 6-44

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Please describe any opportunities for the next 5 years for additional wholesale customers and the growth in water demand that this could cause.

Information Provided:

See response to OUCC DR 6-43.b.

OUCC DR 2-003

DATA INFORMATION REQUEST
City of Evansville, Indiana

Cause No. 44760

Information Requested:

On pages 7 - 9 of Exhibit DLB-1, Umbaugh Accounting Report, Petitioner provides its four-year Proposed Capital Improvement Plan (CIP) which totals $108,107,237. On page 7 of Mr. Baldessari's testimony, he states "an estimated $47 million of the planned projects in the CIP are not able to be funded in this funding period and will need to be deferred until there is available funding." Has Petitioner prioritized the projects included in the CIP to determine which projects will be completed with the funds requested in this case? If so, please provide a prioritized list of projects to be completed with the funding requested in this case.

Information Provided:

The projects included in the CIP which are proposed to be completed with the funds requested in this case have been prioritized, and are listed in order of priority on the attached document titled *EWSU Project Priority List – IURC Cause No. 44760 Data Request Set No. 2.*

Attachment:

Attachment to OUCC DR 2-3.pdf

Cause No. 44760
Attachment CNS-5
Page 2 of 6

Priority No.	Project	Description	2017	2018	2019	2020	4 Year Total
1	Hydrant Replacement Project	We have approximately 6,000 fire hydrants in the system and are adding to that number annually with the acceptance of new subdivisions into the system. Many of the hydrants are currently over 60 years old. Therefore, we have started a hydrant replacement schedule where the goal is to replace approximately 150 hydrants per year. We currently have a comprehensive hydrant inspection program and can target the hydrants in the worst condition for replacement.	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 275,000.00	$ 1,025,000.00
2	Valve Replacement Project	We have a valve exercise program in place to ensure proper operability of the system. As we are moving through the system we find valves that are in-operable or broken. These valves must be repaired or replaced to restore proper operability to the system.	$ 100,000.00	$ 110,000.00	$ 110,000.00	$ 110,000.00	$ 430,000.00
3	Annual Meters	Miscellaneous meter items needed on an annual basis: industrial meters, meter reading equipment, new service connections, resetters, and residential meters.	$ 701,450.00	$ 736,500.00	$ 736,500.00	$ 736,500.00	$ 2,910,950.00
4	Distribution System Improvements	These are non-routine, unexpected issues that are encountered throughout the year that cannot be foreseen and critical to maintain service.	$ 248,000.00	$ 260,000.00	$ 260,000.00	$ 260,000.00	$ 1,028,000.00
5	Annual Blow-Offs	These are auto-flush devices that are installed throughout the system on dead-end lines to improve water quality.	$ 38,000.00	$ 39,000.00	$ 39,000.00	$ 39,000.00	$ 155,000.00
6	Equipment Replacement Program	This is a trade-in program for our backhoes where we trade every two years or approximately 2,500 hours. Since we rely on our backhoes to run every day without downtime, we trade often enough for them to remain reliable and keep them under warranty. This also includes other heavy equipment such as hydraulic hammers.	$ 119,000.00	$ 60,000.00	$ 60,000.00	$119,350.00	$ 358,350.00
7	Vehicle Replacement Program	This program will replace aging vehicles in the fleet, many of which are currently out of service. The oldest vehicles and those in the worst condition will be retired on an annual basis in order to maintain a reliable fleet and minimize the replacement cost.	$ 273,000.00	$ 310,400.00	$ 440,000.00	$ 93,800.00	$1,117,200.00
8	Dump Truck Replacement Program	This replacement program is for dump trucks and valve trucks on a regular basis as these trucks run every day and are needed in emergency situations to maintain the system.	$ 120,000.00	$ 120,000.00	$ -	$ 132,000.00	$372,000.00
9	Utility Machine Equipment	Copiers, printers, GPS units, etc.	$ 44,000.00	$ 46,000.00	$ 46,000.00		$ 136,000.00
10	Bike Path West of U.S. 41 - From Ravenswood Ave. to Adams Ave.	Eliminate dead-end water mains along proposed bike path west of U.S. 41 from Ravenswood Ave. to Adams Ave. (approximately 2,000' of 16" C-905 pipe). Improved water quality and fire protection will result.	$500,000.00	$ -	$ -	$ -	$500,000.00

11	Washington St. and Second St. Road Improvements	Replace water line within road project limits. Replace approximately 1,937' of 8" cast iron pipe on Washington St., Second St., and Parrett St. south of Second St. with 8" PVC (C900). Replace 460' of 16" cast iron pipe on Adams Ave. and Second St. with 16" PVC (C905). Although prompted by the road improvements, the existing water mains have outlived their useful life and need replaced.	$ -	$646,070.00	$ -	$ -	$ 646,070.00
12	INDOT Relocations	In addition to those known projects, there are other local and state transportation projects in the works for which relocation of water mains, the cost of which can only be estimated at this time, will be required due to conflicts with those transportation improvements.	$3,000,000.00	$ 2,353,930.00	$ 3,000,000.00	$ 3,000,000.00	$11,353,930.00
13	Preliminary Engineering for Treatment Plant	See below.	$ 5,000,000.00	$ 5,000,000.00	$ -	$ -	$ 10,000,000.00
14	Raw Water Main and Treatment Plant Property Acquisition	See below.	$ 650,000.00	$ -	$ -	$ -	
15	Harmony Way; Franklin Heights Neighborhood	Replace existing mains (4", 6" and 8" cast iron) on Harmony Way and in Franklin Heights neighborhood with 12" PVC (C900) to improve flow, fire protection and water quality to Reitz High School area and to eliminate water breaks.	$ 1,208,452.00	$ 576,558.00			$ 1,785,010.00
16	Keck Ave.	This project includes the replacement of approximately 2,100 feet (Keck Ave. from Grand Ave. to Stringtown Rd.) of 8" unlined cast iron main with a new 12" PVC (C900) main. The existing main has an extensive history of breaks and, in some instances, property damage.	$ 360,000.00				$ 360,000.00
17	Stringtown Road Main Replacement from Louisiana Street to Morgan Avenue	This project will include the replacement of approximately 1,500' of 16" un-lined cast iron pipe with a new 16" PVC (C905)water main. This project also includes the tie-ins to several side streets. The number of breaks and size of the line (flow volume) result in property damage when breaks occur due to the close proximity of the main to many businesses.	$ 764,238.00				$ 764,238.00
18	Vanderburgh Neighborhood	This project includes the replacement of approximately 6,400' feet of 2", 2 1/4", 4", 6", and 8" galvanized steel, transite, and unlined cast-iron pipe with new 8" PVC (C900). This will eliminate approximately 500 feet of 12" un-lined cast iron main that is currently under a railway switchyard and in-accessible as well as eliminate 2 ditch crossings which exposes the lines to the atmosphere. This project will improve water quality to the area as well as provide a large area with better fire protection.	$ 846,320.00				$ 846,320.00

Cause No. 44760
Attachment CNS-5
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19	Kratzville Rd. - Phase IV - On Mill from Kratzville, to Big Ten Blvd.	This project includes the installation of approximately 1,800' of 12" PVC main, to eliminate a 12" dead-end main. This will improve flow characteristics (pressure issues), water quality and fire protection.	$ 260,000.00				$ 260,000.00
20	Mohr Rd.	This project includes the installation of approximately 1,800 feet of 12" PVC (C900) main to tie two existing 12" dead-end mains together. This will convert approximately 1.5 miles of 12" main to a higher pressure zone which will greatly improve flow characteristics to a large number of customers, including many industrial accounts, and also provide better fire protection. This is a companion project to Kratzville Rd. Phase IV.	$ 260,000.00				$ 260,000.00
21	New Harmony Road from Allens Lane to Harmony Way	2,200' (New Harmony Rd from Allens Ln., to Harmony Way) of new 12" PVC (C900) is proposed to replace an aged existing 4" cast iron main that is in poor condition and frequently breaks.	$ 536,000.00				$ 536,000.00
22	Frey Rd.	Existing 4" cast iron pipe and 2" galvanized steel pipe is in poor condition with a history of breaks and water quality (discoloration) issues. New 8" main (PVC -C900) main is proposed along this entire length (approx. 1950 feet). Replacement will also result in better flow and fire-protection.	$ 303,000.00				$ 303,000.00
23	Lodge Ave. from Walnut St. to Riverside Dr.	Install new 12" PVC (C900) main to replace existing 8" cast iron with due to numerous breaks and the need for better flow and fire protection.	$ 2,290,750.00				$ 2,290,750.00
24	Lodge Ave. Main Replacement - Washington Ave. to Bellemeade Ave.	Project entails the replacement of an existing 8" cast iron main with a new 12" PVC (C900) line. This section of existing water main has outlived it's useful life and experiences a significant number of breaks.	$ 430,000.00				$ 430,000.00
25	Weinbach Ave. from Lloyd Expwy. to Pollack Ave.	Replace deteriorated, existing 8" and 12" cast iron main that frequently breaks along Weinbach Ave. from Lloyd Expwy. to Pollack Ave. with new 12" PVC (C900) pipe.	$ 3,066,250.00				$ 3,066,250.00
26	Olive St.	This project includes the replacement (with 8" PVC) or lining of approximately 2,500' (Olive St. from Rotherwood Ave. to cul-de-sac west of Harlan Ave.) of 6" un-lined cast iron water main. This section of existing 6" line has a history of discolored water and the proposed improvements will result in better water quality.	$ 287,000.00				$ 287,000.00

27	Sycamore St. Neighborhood	This project includes the replacement (with 8" PVC) or lining of approximately 4,000' (Sycamore St. from Willow Rd. to Runnymeade Ave.) of 6" unlined cast iron water main. This neighborhood regularly experiences dis-colored and proposed improvements will improve water quality.	$ 480,000.00				$ 480,000.00
28	Heidelbach Ave. Main Replacement - Morgan Ave. to Olmstead Ave.; Olmstead Ave. from Heidelbach Rd.to Stringtown	Replace approximately 5,400' of existing 12" cast iron main along Heidelbach Ave. from Morgan Ave. to Olmstead Ave. and along Olmstead Ave. from Heidelbach Ave. to Stringtown Rd. These water mains are in poor condition and break several times a year. New 12" PVC (C900) is proposed.		$ 1,490,000.00			$ 1,490,000.00
29	St. George Rd. - From Twickingham Dr. to Oak Hill Rd.	Approximately 3,760' of 8" PVC (C900) needed to replace the existing 4" cast iron water main that breaks serveral times per year. The improvements will also result in improved fire protection.		$ 1,034,000.00			$ 1,034,000.00
30	Hogue Road from N. Red Bank Road west to Williams Road	Replace existing 8" unlined cast iron main with new 8" PVC (C900) pipe due to numerous breaks.		$ 1,651,975.00			$ 1,651,975.00
31	Broadway from S Red Bank Road west to Schutte Road	Numerous breaks to the existing 4", 6", 8", and 12" cast iron main necessitate the need for replacement with a 12" PVC (C900) line which will also result in increased flow and better fire protection.		$ 3,025,000.00			$ 3,025,000.00
32	Wolcott Ave. west of Vanness Ave.	The existing 2" galvanized steel line along this section of Wolcott Ave. needs replaced with a new 8" PVC (C900) due numerous breaks and new hydrant needs to be installed for better fire protection.		$ 90,000.00			$ 90,000.00
33	Sweetser Rotherwood Area	Replace mains on Waggoner, Cass, Ridgeway, Sweetser, Conlin, Crystal Court, Plantation, Rotherwood, Frederick and Norman in area bounded by Covert, Weinbach, Pollack and Lodge; replacing 6" cast iron pipe with 8" PVC (C900); numerous breaks - improved fire protection - water quality.		$ 1,584,800.00			
34	Bartels Lane from Evergreen Road south to the dead-end	Replace existing 4" asbestos concrete (transite) main with 8" PVC (C900) due to numerous breaks on this aged main that has outlived it's useful life.		$ 329,400.00			$ 329,400.00
35	Bayard Park Dr. Main Replacement from Lodge Ave. to Weinbach Ave.	Replace approximately 2,000 ' of existing 6" cast iron main along Bayard Park Dr. from Lodge Ave. to Weinbach Ave. with 8" PVC (C900) due to numerous breaks.		$ 373,000.00			$ 373,000.00
36	Lant Circle - Lodge to Bayard Park	Approximately 1,000' of 8" PVC (C900) needed to replace 6" cast iron due to numerous breaks.		$ 240,000.00			$ 240,000.00
37	Eichel Road	New 12" PVC (C900) main needed to connect system under U.S. 41 and replace frequently breaking neighborhood main (existing 6" cast iron). Improved fire protection will also be achieved.		$ 337,500.00			$ 337,500.00
38	Vanderburgh - Ph II	Replace 2" galvanized steel pipe, 2 1/4" cast iron pipe and 4" cast iron pipe with 8" PVC (C900) due to numerous breaks and the need to improve water quality and fire protection.		$ 461,000.00			$ 461,000.00

39	Ingle Ave. from Forest Ave. to Marion Ave.	Approximately 1015' of new 8" PVC (C900) needed to replace existing 2" galvanized steel and 6" cast iron main and eliminate numerous breaks and improve fire protection and water quality.		$ 250,000.00			$ 250,000.00
40	Presidents Neighborhood Central	Replace mains on Adams, Madison, Monroe, Jackson, Taylor and Ravenswood between Lodge and Rotherwood. Also, Brookside, Bennighof, Englewood. Existing are 2" galvanized steel pipe and 6" cast iron pipe; proposed is 8" PVC (C900) - numerous breaks - improved water quality and fire protection.		$ 2,169,700.00			$ 2,169,700.00
41	Presidents Neighborhood West	Replace mains on Harlan, Henning, Madison from Washington to Covert (near Marshall); replacing 6" cast iron with 8" PVC (C900); numerous breaks - improved water quality and fire protection.		$ 1,141,100.00			$ 1,141,100.00
42	Lloyd Expwy. and 12th Ave. Water Vault	This vault is situated in the travel lanes of a major thouroughfare (S.R. 62) and, due to the difference in elevations of the adjacent pavement, needs adjusted to that adjacent pavement grade.		$ 35,000.00			$ 35,000.00
43	Melody Hill South of St. George	Replace deteriorated 4" and 6" cast iron lines with 8" PVC (C900) in Melody Hill Subdivision (south of St. George Rd.) due to numerous breaks and the need for improved water quality and fire protection.			$ 2,202,000.00		$ 2,202,000.00
44	Marshall Ave Main Replacement Washington Ave to Covert Ave	Replace existing 6" cast iron main that is at the end of it's life expectancy and frequently breaks with an new 8" PVC (C900) line.				$ 490,000.00	$ 490,000.00
45	Fendrich Neighborhood	Replace aged 4" asbestos concrete (transite) and 6" cast iron mains with 8" PVC (C900) on Richardt Ave., Oakland Ave, and Herndon Ave. to improve distribution, water quality, and fire protection to the vicinity.				$ 740,000.00	$ 740,000.00
46	Stanley Ave.	Replace existing 6" unlined cast iron main with new 8" PVC (C900).				$ 380,000.00	$ 380,000.00
47	Christ Rd - From Kerth to Fares	Replace approximately 480' of 4" cast iron maiin with new 8" PVC (C900) pipe.				$ 100,000.00	$ 100,000.00
48	Kerth Ave. - From St. George to Christ	Approximately 1,220' of new 8" PVC (C900) needed to replace existing 4" cast iron water main.				$ 230,000.00	$ 230,000.00
		Annual Total	**$ 22,135,460.00**	**$ 24,720,933.00**	**$ 7,143,500.00**	**$ 6,705,650.00**	**$ 60,705,543.00**

OUCC DR 3-12

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Please list each of the main replacement projects sought and completed from Cause No. 44760, feet of main, and project cost in the following format:

Location	New main diameter	New main material	Length	Total cost

Information Provided:

See attached document titled *Main Replacement Projects Sought and Completed from Cause No. 44760* (OUCC DR 3-12.xlsx). Please note, to explain the status of main projects not completed, added, modified, or deferred, a "Comments" column has been added. Please note further that, as discussed in the Direct Testimony of Patrick R. Keepes in Cause No. 44760, at pg. 5, the CIP is a 4-year plan which extends until 2020. Evansville is currently only in Year 2 of the 4-year plan and anticipates undertaking additional main replacement projects in the latter two years of the program.

Attachments:

OUCC DR 3-12.xlsx

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Bike Path West of U.S. 41 - From Ravenswood Ave. to Adams Ave.	Ravenswood to Adams West of Highway 41	16", 12", 8"	Ductile Iron	1943', 17', 696'	$455,156	
Washington St. and Second St. Road Improvements						Project Delayed by City of Evansville. Project placed in 2019 Water Rate Case
INDOT Relocations						Individual Projects Identified Below
Harmony Way; Franklin Heights Neighborhood	Harmony Way and Franklin Heights area	4"-12"	Under Design	21,200'	$364,000	Design Only Encumbered
Keck Ave.	Keck, west of Stringtown to Grand Avenue	12", 8"	C-900 PVC	520', 1810'	$837,753	
Stringtown Road Main Replacement from Louisiana Street to Morgan Avenue	Stringtown from Louisiana to Morgan and Morgan from Fares to US41	16"		1,500'	$696,713	
Vanderburgh Neighborhood	N. Kentucky, south of Vanderburgh Avenue at Pfeiffer Road to Richland and around Evergreen, Homestead, and Graffelock Avenue	8", 6"	C-900 PVC	5580', 720'	$1,384,873	

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Kratzville Rd. - Phase IV - On Mill from Kratzville, to Big Ten Blvd.	Big Ten Blvd to Kratzville on Mill Road and Mohr Road	12"	C-900 PVC, C-900 PVC RJ Directionally Drilled	2648', 830'	$641,706	
Mohr Rd.						Rolled into Kratzville Rd. project listed above
New Harmony Road from Allens Lane to Harmony Way	Under Design				$495,020	Design Only Encumbered
Frey Rd.						Rolled into Broadway from S. Red Bank Rd. to Schutte Rd. project listed below
Lodge Ave. from Walnut St. to Riverside Dr.	Lodge from Riverside to Lincoln, Lincoln from Lodge to Willow, Willow from Lincoln to Walnut, Bellemeade from Lodge to Bennighof	12"	C-900 PVC	13,000'	$4,309,113	
Lodge Ave. Main Replacement - Washington Ave. to Bellemeade Ave.						Rolled into Lodge Ave. from Walnut St. to Riverside Dr. project listed above

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Weinbach Ave. from Lloyd Expwy. to Pollack Ave.	Weinbach from Lloyd Expressway to south of Kathleen Avenue	12", 12", 8"	C-900 PVC, Ductile Iron, C-900 PVC	9763', 1400', 1527'	$5,587,500	
Olive St.						Bundled with Project from 2013 Water Rate Case Bond
Sycamore St. Neighborhood						Bundled with Project from 2013 Water Rate Case Bond
Heidelbach Ave. Main Replacement - Morgan Ave. to Olmstead Ave.; Olmstead Ave. from Heidelbach Rd.to Stringtown Ave.	Heidelbach at Morgan Avenue to Olmstead east of Stringtown	12", 8"	C-900 PVC	5315', 815'	$2,170,696	
St. George Rd. - From Twickingham Dr. to Oak Hill Rd.	Neighborhood south of St. George and west of Oak Hill Road to Ashwood to the south; St George from Twickingham Drive to west of Oak Hill Road	8", 4"	C-900 PVC	14,770'	$2,325,630	
Hogue Road from N. Red Bank Road west to Williams Road	Under Design				$194,400	Design Only Encumbered
Broadway from S Red Bank Road west to Schutte Road	Under Design				$315,500	Design Only Encumbered
Wolcott Ave. west of Vanness Ave.	West end of Wolcott to Vanness Avenue	8"	C-900 PVC, C-900 PVC RJ	441'	$66,214	

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Sweetser Rotherwood Area	Nieghborhood bounded by Covert Avenue, Weinbach Avenue, Pollack Avenue, Lodge Avenue	8"	C-900 PVC	15,800'	$352,000	Design Only Encumbered
Bartels Lane from Evergreen Road south to the dead-end						Project placed in 2019 Water Rate Case
Bayard Park Dr. Main Replacement from Lodge Ave. to Weinbach Ave.	Lant Circle from Lodge to Bayard Park Drive, Bayard Park east to Weinbach and Rotherwood from Bayard Park to Lincoln Avenue	8"	C-900 PVC, C-900 PVC RJ, Ductile Iron	3727', 258', 376'	$1,361,195	
Lant Circle - Lodge to Bayard Park						Rolled into Bayard Park from Lodge to Weinbach project listed above
Eichel Road						Project placed in 2019 Water Rate Case
Vanderburgh - Ph II						Rolled into Vanderburgh Neighborhood project listed above
Ingle Ave. from Forest Ave. to Marion Ave.						Project placed in 2019 Water Rate Case

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Presidents Neighborhood Central	Under Design				$305,150	Design Only Encumbered
Presidents Neighborhood West	Under Design				$213,964	Design Only Encumbered
Lloyd Expwy. and 12th Ave. Water Vault						Bundled and Reprioritized. Removed from 2016 Water Rate Case
Melody Hill South of St. George						Rolled into St. George Rd. from Twickingham to Oak Hill Rd. project listed above
Marshall Ave Main Replacement Washington Ave to Covert Ave						Rolled into President's Neighborhood West project listed above
Fendrich Neighborhood						Project placed in 2019 Water Rate Case
Stanley Ave.						Project placed in 2019 Water Rate Case
Christ Rd - From Kerth to Fares						Project placed in 2019 Water Rate Case

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Kerth Ave. - From St. George to Christ						Project placed in 2019 Water Rate Case
Western Terrace Phase II	W. Columbia, W. Maryland, W. Oregon, N. Helfrich, N. Bosse, N. Werner, Clement, Genesta, and Terrace Street	8"	C-900 PVC, Ductile Iron	6269', 125'	$1,210,896	Partial Project Carryover from 2012 Water Rate Case
St. James, Morgan to Keck	Keck Avenue at Ruston to St. James to Morgan Avenue	8"	C-900 PVC	1,587'	$295,740	Emergent WQ Problem Project
Green River Phases VI and VII	North Green River Road from Kansas Road to SR57	12"	C-900 PVC, C-900 PVC RJ, Ductile Iron	9302', 302', 220'	$1,489,045	Local Transportation Project
Mt. Auburn Road, Optimist to Buchannon	Mt Auburn from Bismark Avenue to Optimist Drive	8"	C-900 PVC	2,430'	$609,916	Local Transportation Project
Presidents Neighborhood East	Under Design				$83,790	Design Only Encumbered
Annual On-Call Construction Engineering / Resident Project Representation for all Construction Projects					$976,000	Consolidated all field work to one consultant

OUCC DR 5-23

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Regarding the new water supply for Evansville using groundwater wells and the proposed new water treatment plant, please provide the following:

a. Status of the preliminary design work completed to date.
b. Cost for preliminary design work incurred annually for 2016, 2017, and 2018 to date.
c. Projected costs by year for preliminary design work remaining to be done.
d. Current schedule for the project.
e. Updated project cost estimates, if available.

Information Provided:

a. There has been no preliminary design work completed to date.
b. There have been no preliminary design costs incurred in 2016, 2017, and 2018 to date.
c. Based on the anticipated schedule outlined below, the current estimated projected costs by year for preliminary design work remaining (100% estimated at $10 million) are as follows:

2019 - $3.33 million
2020 - $3.33 million
2021 - $3.33 million

d. The current schedule is dependent on completion of the wellfield evaluation as discussed in Petitioner's response to OUCC DR 3-15. At this time, it is believed that the final analysis and eventual decision to construct a new water treatment facility or perform a major upgrade to the existing facility will be made in the second half of 2018.
e. There are no updated project cost estimates available.

OUCC DR 7-1

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

Reference Attachments PRK-2 through PRK-6 to the Direct Testimony of Patrick R. Keepes. Please provide the following for each project listed:

a. CIP Project Number.

b. More complete description of each project.

c. Detailed latest project cost estimate for each project. (If a detailed cost estimate is unavailable for an individual project, so state and provide the basis for the cost estimate stated in Attachments PRK-2 through PRK-6.)

d. For each project listed, the year the project cost estimate was prepared.

e. The identity of the firm or person who prepared the project cost estimate. (If the project cost estimate for an individual project shown in Attachments PRK-2 through PRK-6 has been updated by Petitioner, please provide the original project cost estimate that Petitioner used as the basis for the update.)

Information Provided:

a. There are no CIP numbers – EWSU assigns project numbers to capital projects upon commencement of design.

b. See previously provided masterplan and State Revolving Fund (SRF) Preliminary Engineering Report (PER) for more complete descriptions of each project.

c. See previously provided PER for the detailed latest cost estimates for those projects that have been revised since submittal of PRK-2 through PRK-6.

The basis for the cost estimates for those projects that have not been revised in PRK-2 through PRK-5 may be found in the attached documents titled *Water Main Projects* (OUCC DR 7-1.c, Attachment 1.pdf), *Booster Station Projects* (OUCC DR 7-1.c, Attachment 2.pdf), *Treatment Plant Projects* (OUCC DR 7-1.c, Attachment 3.pdf), and *Wholesale User Projects* (OUCC DR 7-1.c, Attachment

4.pdf). See also response to 7-2 below for further discussion regarding *Wholesale User Projects* (OUCC DR 7-1.c, Attachment 4.pdf).

The basis for the cost estimates for annual projects depicted in PRK-6 was a combination of EWSU planning estimates for those listed water main projects, current material and vendor pricing (hydrants, meters, valves, re-setters, auto-flush devices, etc.), actual professional service agreement amounts for annual construction engineering services/resident project representative (CES/RPR), and the attached document titled *2019 to 2021 Water Vehicle & Equipment Replacement Program* (OUCC DR 7-1.c, Attachment 5.xlsx).

d. The cost estimates for those projects listed in the PER were prepared in 2018. The cost estimates for those remaining projects in PRK-2 through PRK-5 were prepared in the 4th quarter of 2017 into the 1st quarter of 2018. The cost estimates for the water main projects listed in PRK-6 were prepared in 2016 (these are projects that were re-prioritized and deferred from the previous rate case). The cost estimates for the remaining projects listed in PRK-6 were prepared in the 4th quarter of 2017 into the 1st quarter of 2018.

e. The firm(s) that prepared the cost estimates for those projects identified in the PER are identified in that document. The firm that prepared the cost estimates in PRK-2 through PRK-5 was HNTB. EWSU prepared the cost estimates for those projects listed in PRK-6. The cost estimates in the previously provided masterplan were the basis for those projects that were updated and detailed in the PER.

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HNTB

WATER MAIN PROJECTS

Proposed 2019-2021 Water Main Replacement Projects

Water Main Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Design Costs (2017 Dollars)	Estimated Program Management Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Total LF
President's Neighborhood Central	$3,174,000		$95,200	$304,700	$3,573,900	HNTB Estimate	2019	$3,905,300	9,300
President's Neighborhood West	$2,980,000		$89,400	$286,100	$3,355,500	HNTB Estimate	2019	$3,666,600	7,700
President's Neighborhood East	$1,167,000		$35,000	$112,000	$1,314,000	HNTB Estimate	2019	$1,435,800	3,400
Franklin Ave and Illinois east of Pigeon Creek	$961,000	$96,100	$28,800	$92,300	$1,178,200	HNTB Estimate	2019	$1,406,800	
Washington and Second - Relocation	$1,385,000		$41,600	$133,000	$1,559,600	HNTB Estimate	2019	$1,704,200	2,300
Hogue Road, Red Bank to Williams	$1,944,000		$58,300	$186,600	$2,188,900	HNTB Estimate	2019	$2,391,900	8,500
New Harmony Road, Allens Lane to Harmony Way	$863,000		$25,900	$82,800	$971,700	HNTB Estimate	2019	$1,061,800	2,400
Harmony Way, Franklin Heights Neighborhood	$3,640,000		$109,200	$349,400	$4,098,600	HNTB Estimate	2019	$4,478,700	9,600
Sweetser Rotherwood Area	$4,567,000		$137,000	$438,400	$5,142,400	HNTB Estimate	2019	$5,619,200	15,800
Kansas Road, St. Petersburg to I-69 - Relocation	$2,585,000	$258,500	$77,600	$248,200	$3,169,300	HNTB Estimate	2019	$3,463,200	6,500
Waterworks Road - (4) 30" Water Main Relocations	$4,250,000	$425,000	$127,500	$408,000	$5,210,500	HNTB Estimate	2019	$5,693,700	5,000
Road Project Relocations (unknown)	$2,455,200	$245,520	$73,700	$235,700	$3,010,120	HNTB Estimate	2019	$3,289,200	7,920
Bartels Lane, Evergreen Road South	$580,000	$58,000	$17,400	$55,700	$711,100	HNTB Estimate	2020	$800,300	2,400
Ingle Ave, Forest to Marion	$346,000	$34,600	$10,400	$33,200	$424,200	HNTB Estimate	2020	$477,400	1,100
Fendrich Neighborhood	$2,077,000	$207,700	$62,300	$199,400	$2,546,400	HNTB Estimate	2020	$2,866,000	6,700
Stanley Ave, Governor to dead end east of Kerth	$1,186,000	$118,600	$35,600	$113,900	$1,454,100	HNTB Estimate	2020	$1,636,600	5,200
Kerth Avenue, St. George to Christ	$427,800	$42,780	$12,800	$41,100	$524,480	HNTB Estimate	2020	$590,300	1,380
Christ Rd - Extension Kerth to Fares	$100,000	$10,000	$3,000	$9,600	$122,600	HNTB Estimate	2020	$138,000	340
Allens Ln - Phase I	$837,000	$83,700	$25,100	$80,400	$1,026,200	HNTB Estimate	2020	$1,155,000	2,700
Grove Street, South of Allens Lane	$806,000	$80,600	$24,200	$77,400	$988,200	HNTB Estimate	2020	$1,112,200	2,600
Rosewood Drive, Weaver to Hermann and Karch Drive east of Hermann	$291,400	$29,140	$8,700	$28,000	$357,240	HNTB Estimate	2020	$402,100	940
Gayne Street, West of Van Ness	$434,000	$43,400	$13,000	$41,700	$532,100	HNTB Estimate	2020	$598,900	1,400
Upper Mt Vernon - Phase I, Red Bank Road, and New Harmony Road	$5,146,000	$514,600	$154,400	$494,000	$6,309,000	HNTB Estimate	2020	$7,100,800	16,600
Tupman Road, north of Upper Mt Vernon	$620,000	$62,000	$18,600	$59,500	$760,100	HNTB Estimate	2020	$855,500	2,000
Road Project Relocations (unknown)	$2,455,200	$245,520	$73,700	$235,700	$3,010,120	HNTB Estimate	2020	$3,387,900	7,920
Bellaire Road, Oak Hill to Weinbach	$260,400	$26,040	$7,800	$25,000	$319,240	HNTB Estimate	2020	$359,300	840
US 41 and Lynch Rd	$4,154,000	$415,400	$124,600	$398,800	$5,092,800	HNTB Estimate	2020	$5,732,000	13,400
Schmitt Lane, east of Oak Hill	$372,000	$37,200	$11,200	$35,700	$456,100	HNTB Estimate	2020	$513,300	1,200
Whetstone Road, west of Oak Hill	$192,200	$19,220	$5,800	$18,500	$235,720	HNTB Estimate	2020	$265,300	620
Bexley Road, east of Oak Hill	$434,000	$43,400	$13,000	$41,700	$532,100	HNTB Estimate	2020	$598,900	1,400
New York Ave, Bayse to Riverside	$651,000	$65,100	$19,500	$62,500	$798,100	HNTB Estimate	2020	$898,300	2,100
Claremont, Bosse, and Craig Aves	$2,263,000	$226,300	$67,900	$217,200	$2,774,400	HNTB Estimate	2020	$3,122,600	7,300
Charlotte and Russel Sts	$1,085,000	$108,500	$32,600	$104,200	$1,330,300	HNTB Estimate	2021	$1,542,200	3,500
Peerless Road, Upper Mt Vernon to Moya	$1,550,000	$155,000	$46,500	$148,800	$1,900,300	HNTB Estimate	2021	$2,203,000	5,000
Morgan Ave, Fares to Garvin	$1,271,000	$127,100	$38,100	$122,000	$1,558,200	HNTB Estimate	2021	$1,806,400	4,100
Neighborhood of Covert, Vann, Graham, and Hawthorne	$3,007,000	$300,700	$90,200	$288,700	$3,686,600	HNTB Estimate	2021	$4,273,800	9,700
Senate Ave, Petersburg to Kentucky & St George	$3,038,000	$303,800	$91,100	$291,600	$3,724,500	HNTB Estimate	2021	$4,317,700	9,800
First Ave, Pigeon Creek to Booster Station	$2,374,600	$237,460	$71,200	$228,000	$2,911,260	HNTB Estimate	2021	$3,374,900	7,660
Lakeview Blvd, Harmony to Golfmoor	$558,000	$55,800	$16,700	$53,600	$684,100	HNTB Estimate	2021	$770,000	1,800
Mesker Park - Phase I	$1,085,000	$108,500	$32,600	$104,200	$1,330,300	HNTB Estimate	2021	$1,542,200	3,500
Speaker Rd, James Ave, Nolan Ave	$899,000	$89,900	$27,000	$86,300	$1,102,200	HNTB Estimate	2021	$1,277,800	2,900
Maryland Ave, Harmony to Wessel	$1,178,000	$117,800	$35,300	$113,100	$1,444,200	HNTB Estimate	2021	$1,674,200	3,800
Covert Ave - Phase II and Wedge Ave	$1,209,000	$120,900	$36,300	$116,100	$1,482,300	HNTB Estimate	2021	$1,718,400	3,900

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HNTB

Columbia - Phase I, Fares, Columbia to Morgan	$2,914,000	$291,400	$87,400	$279,700	$3,572,500	HNTB Estimate	2021	$4,141,500	9,400
Schutte Road, Broadway to USI Tank	$1,643,000	$164,300	$49,300	$157,700	$2,014,300	HNTB Estimate	2021	$2,335,100	5,300
Evans Street & Louisiana	$434,000	$43,400	$13,000	$41,700	$532,100	HNTB Estimate	2021	$616,800	1,400
Ohio Street, West of Pigeon Creek to St Joseph	$1,178,000	$117,800	$35,300	$113,100	$1,444,200	HNTB Estimate	2021	$1,724,500	
Road Project Relocations (unknown)	$2,455,200	$245,520	$73,700	$235,700	$3,010,120	HNTB Estimate	2021	$3,489,600	7,920
Total of Projects	**$79,483,000**	**$5,976,300**	**$2,384,500**	**$7,630,400**	**$95,474,200**			**$107,535,200**	**236,240**

Non-construction costs assumed to be the following:

10% Design Costs; No Design Costs for Projects designed in 2017 / 2018
3% Program Management Costs
9.6% Construction Engineer / Resident Project Representative Costs

Year	Total Cost	Total Lineal Feet	Total Miles
2019	$38,116,400	78,420	14.9
2020	$32,610,700	78,140	14.8
2021	$36,808,100	79,680	15.1
TOTAL	$107,535,200	236,240	44.7

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HNTB

Booster Station Master Plan Projects

Booster Station Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Design Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year
Campground Booster Station Improvements	$342,000	$34,200	$34,200	$410,400	HNTB Estimate	2020	$461,900
Lincoln Booster Station Replacement	$1,580,000	$158,000	$158,000	$1,896,000	HNTB Estimate	2020	$2,134,000
Total of Projects	**$1,922,000**	**$192,200**	**$192,200**	**$2,306,400**			**$2,595,900**

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HNTB

TREATMENT PLANT PROJECTS - REQUIRED FOR CONTINUED SERVICE/IMMEDIATE NEEDS

Project Name	Estimated Construction Cost (2016 Dollars)	Estimated Non-Construction Costs (2016 Dollars)	Estimated Total Project Cost (2016 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year
Replace MCCs/Switchgear/Transformers	$850,000	$170,000	$1,020,000	2016 Master Plan	2019	$1,115,000
Filter Backwash System - Replace Main In/Out of Floodwall to Tanks	$600,000	$120,000	$720,000	2016 Master Plan	2019	$787,000
Extend Existing Outfall Sewers	$500,000	$100,000	$600,000	HNTB Estimate	2019	$656,000
Line 36" Outfall #4 Sewer and Below Existing Filter Buildings	$80,000	$0	$80,000	2016 Master Plan	2019	$88,000
New 6.0 MG Clear well and HSP #4	$13,800,000	$2,760,000	$16,560,000	2016 Master Plan	2019	$18,096,000
Replace and Upgrade Main Plant Switchgear	$1,000,000	$200,000	$1,200,000	2016 Master Plan	2019	$1,312,000
Rehab/Repair North Secondary Sed Basin Structural Rehab	$500,000	$100,000	$600,000	HNTB Estimate	2019	$656,000
Transformer Switches (Allows Bypass of Main Switchgear)	$60,000	$12,000	$72,000	2016 Master Plan	2019	$79,000
Enclose Filters 13-20 at Gallery Access, Relocate 1.5MG Clearwell Vent (for Dehumidification Project)	$50,000	$10,000	$60,000	HNTB Estimate	2019	$66,000
Filters 13-20 Pipe Gallery Coating, Rehab, Replace (As Needed)	$100,000	$20,000	$120,000	2016 Master Plan	2019	$131,127
Flow Meters and Vaults for Transmission Mains (Four 30" and One 48")	$650,000	$130,000	$780,000	HNTB Estimate	2020	$877,897
Grout Injection to Repair Existing 6.5 MG Clearwell	$300,000	$60,000	$360,000	HNTB Estimate	2021	$418,000
Total of Projects	**$18,490,000**	**$3,682,000**	**$22,172,000**			**$24,282,024**

2019	**$22,986,127**
2020	**$877,897**
2021	**$418,000**
TOTAL	**$24,282,024**

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HNTB

PROJECTS TO SUPPLY WHOLESALE USERS INCREASED DEMANDS

Gibson County

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year
Stallings Booster Station Replacement	$3,600,000	$360,000	$360,000	$4,320,000	HNTB Estimate	2021	$5,008,100
Shroeder Road to Volkman Tank - Extension	$1,040,000	$104,000	$104,000	$1,248,000	HNTB Estimate	2021	$1,446,800
Total of Projects	$4,640,000	$464,000	$464,000	$5,568,000			$6,454,900

Evansville
WATER AND SEWER UTILITY

Contractor Outreach

FEBRUARY 8, 2018

Agenda

- Welcome and History of Evansville Water & Sewer Utility
- Introductions
- REFRESH Evansville
- Non-REFRESH Projects
- RENEW Evansville
- Non-IOCP Projects
- M/WBE Program Overview
- Purchasing and Local Requirements
- Open Question and Answer

Welcome and History of Evansville Water & Sewer Utility

OUR MISSION

The Evansville Water & Sewer Utility will provide the Evansville metro area with high quality, safe, dependable water and sewer service at rates which encourage economic development. The Utility will manage land and water resources to ensure quality for future generations.

Welcome and History of Evansville Water & Sewer Utility

ASSETS

- 60 MGD Water Treatment Plant serving 60,000 customers
- 1,000 miles of water main; 6,000 fire hydrants; 7 booster stations; 8 storage tanks
- 60% cast iron pipes with an average age of over 90 years
- 504 miles of sanitary sewer; 318 miles of combined sewer; 92 lift stations
- 18 MGD east & 21.7 MGD west wastewater treatment plants

Introductions

- Evansville Water & Sewer Utility
  - Allen Mounts – Director
  - Mike Labitzke – Deputy Director of Program Management Office
  - J.D. Sloan – Deputy Director of Engineering Services
  - Daniel Claspell – Deputy Director of CS, DP, and AMR
  - Ed Ziemer – Deputy Director of Utilities – Operations
  - Cris Cottom – Water Capital Projects Manager
  - Matt Montgomery – Sewer Capital Projects Manager
  - Pat Keepes – Water Superintendent
  - Harry Lawson – Wastewater Superintendent
  - Duane Gilles – Water Distribution Manager
  - Travis Hildebrandt – Collection Systems Manager
  - Steve Capin – Construction Manager

Overview

What is it? A decades-long program to replace our aging water mains and supporting infrastructure started in 2017

REFRESH Evansville includes:

- Replacement of aging water mains
- Improvements to booster stations
- Construction of new infrastructure

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Background

AWWA Benchmarking Survey for Fiscal Year 2016:

The number of breaks per 100 miles of pipe ranged from three to 24 and the mean was nine.

Explanation of Need:

Year	# of Breaks	Rate (breaks/100 mi)
2014	481	47.9
2015	384	38.2
2016	257	25.6
2017	232	23.1
Jan 2018	*159*	*Already 15.9!*

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Background (Continued)

- Historical rate of water main replacement ≤ 0.5%
  - To replace 1,000 miles >>> 200+ years
- REFRESH targets rate of replacement = 1.5%
  - To replace 1,000 miles >>> 67 years

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Progress to Date

By the Numbers:

- 24 Projects currently scheduled for REFRESH totaling nearly 170,000 LF
  - 8 Project Bids Awarded in 2017 totaling nearly 40,000 LF
  - 16 Projects in Design in 2017
    - 11 Projects Bidding in 2018 totaling over 69,000 LF
    - 5 Projects Finishing Design in 2018 totaling over 60,000 LF to be bid in early 2019

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2017 Construction

Project Name	Length (ft)	Size (in)	Status
Stringtown Road	1,880	16	Complete
Hi-Rail Pedestrian Trail	2,770	16	Complete
Western Terrace Phase II	6,460	8	Construction
Lant Circle / Bayard Park	4,670	8	Construction
Weinbach Ave, Lloyd to Pollack	13,670	12	Construction
Keck Ave, Grand to Stringtown	2,370	12	Construction
Heidelbach Ave, Morgan to Olmstead	6,300	12	Construction
St. James, Morgan to Keck	1,670	8	Construction
TOTAL	39,790		

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Design Update

Project Name	Length (ft)	Size (in)	Status	Bid Opening
St. George and Melody Hill	14,540	8	Awaiting Award of Contract	Jan 2018
West Mill Road and Mohr Road	3,500	12	Bidding	Feb 2018
Green River Road Phases VI and VII	10,600	12	Bidding	Feb 2018
Vanderburgh Neighborhood Phases I and II	8,800	8	Design	March 2018
Lodge Ave, Walnut to Riverside	9,500	12	Design	June 2018
Mt. Auburn Road, Optimist to Buchanan	2,600	8	Design	June 2018
Walcott, West of Van Ness	500	8	Design	Aug 2018
Broadway Ave, Red Bank to Schutte Road, Frey Road	13,500	12	Design	Aug 2018

CONTINUED ON NEXT SLIDE

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Design Update (Continued)

Project Name	Length (ft)	Size (in)	Status	Bid Opening
Eichel, US 41 to Fares	1,100	8	Design	Aug 2018
Washington and Second	2,300	8	Planning	Oct 2018
New Harmony Road, Allens Lane to Harmony Way	2,400	12	Design	Oct 2018
Kansas Road Relocation, St. Petersburg to I-69	6,200	12	Planning	Early 2019
Sweetser Rotherwood Area	15,800	8	Design	Early 2019
President's Neighborhood East/West/Central	20,400	8	Design	Early 2019
Harmony Way, Franklin Heights Neighborhood	9,600	12	Design	Early 2019
Hogue Road, Red Bank to Williams	8,500	8	Design	Early 2019
130,000 FEET CURRENTLY IN DESIGN				

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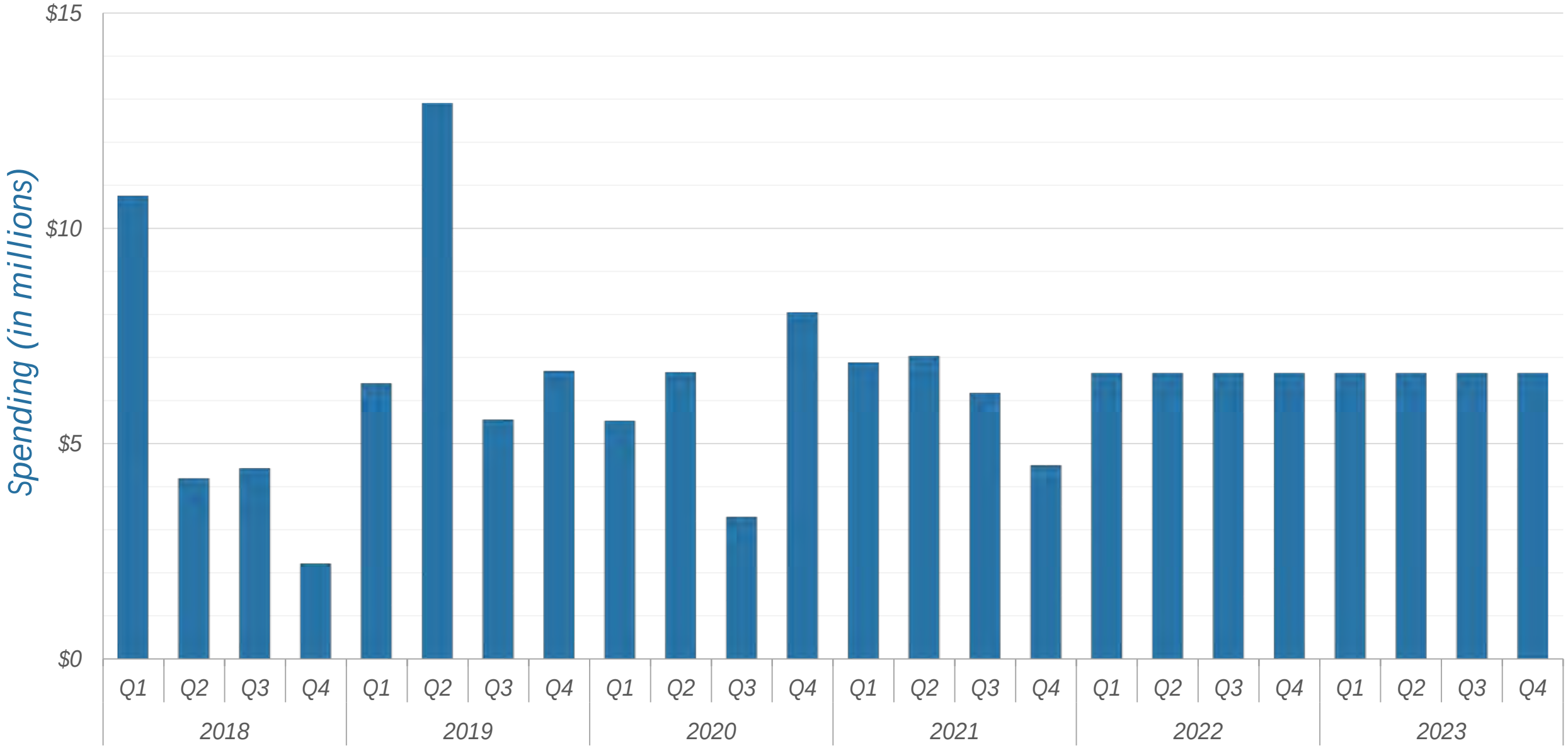
Looking to 2019-2021

By the Numbers:

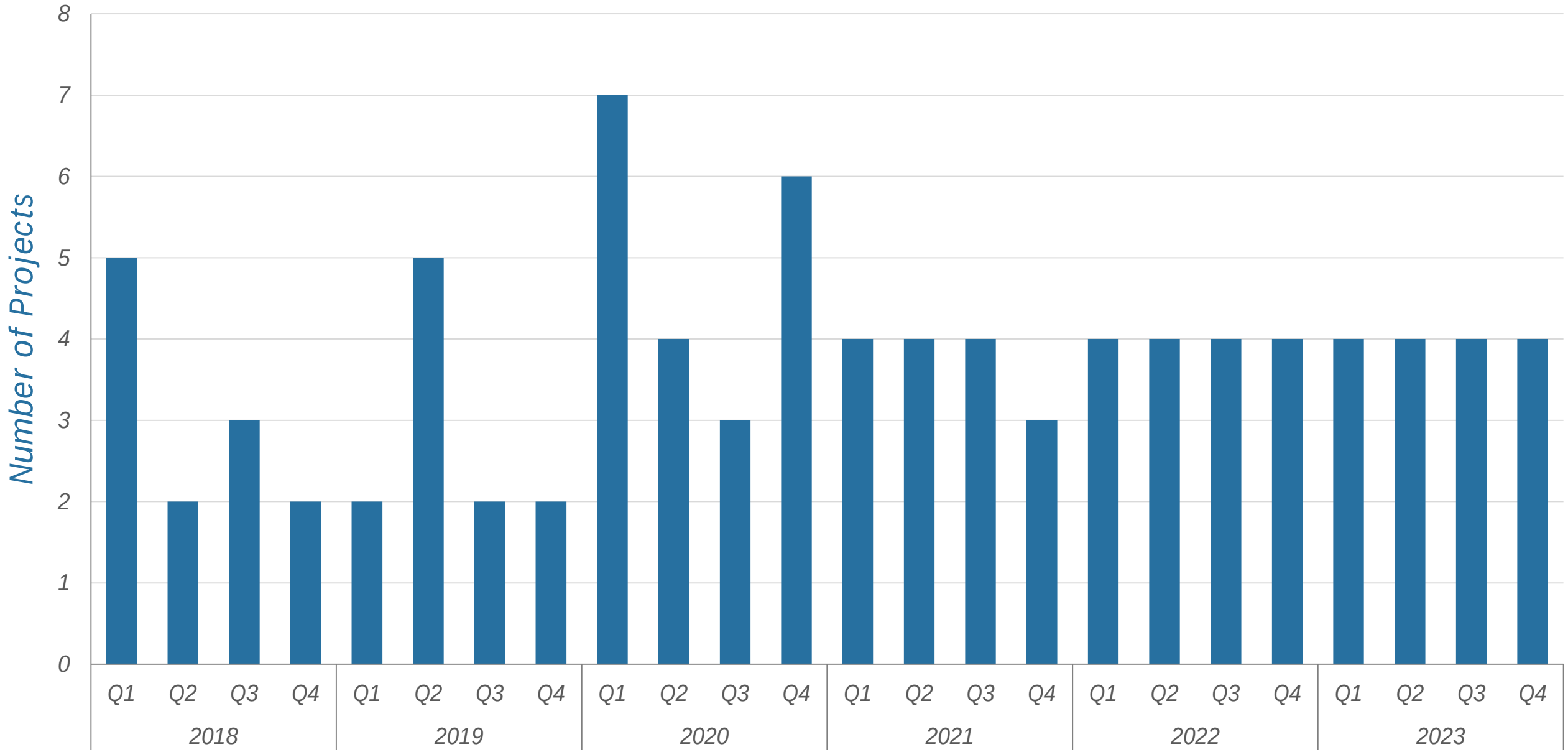
- Over 45 projects proposed for REFRESH totaling nearly 238,000 LF
  - 11 Projects in 2019 totaling over 80,000 LF
  - 20 Projects in 2020 totaling over 78,000 LF
  - 15 Projects in 2021 totaling nearly 80,000 LF

- Proposed REFRESH program costs of $100,000,000+ for 2019-2021

REFRESH Spending - 5-Year Look Ahead by Quarter



REFRESH Projects Bidding - 5-Year Look Ahead by Quarter



Non-REFRESH Water Projects

What is it? Continued capital projects for water projects at either the water treatment plant, existing booster stations, or infrastructure to supply wholesale customers

Non-REFRESH Water Projects include:

- Improvements to booster stations and storage tanks
- Water treatment plant upgrades
- Construction of new infrastructure

Non-REFRESH Water Projects

By the Numbers:

- Over 44 projects proposed for Non-REFRESH Water Projects
  - 12 WTP Capital Projects with estimated cost of nearly $25M
  - 18 WTP Maintenance Projects with estimated cost of nearly $10.5M
  - 4 Booster Station Maintenance Projects with estimated cost of $2.5M
  - Potential 10 Booster/Distribution Projects to increase wholesale customer demands with estimated cost of $30M
  - Major rehabilitation or replacement of the WTP with estimated cost of $50-100M
- Proposed Non-REFRESH costs of $118M to $168M+ for 2019-2021

renew EVANSVILLE

Background

- Evansville is a combined sewer system community
  - Approximately 2 billion gallons of combined sanitary and storm water can escape the system in a year through 22 combined sewer outfalls into the Ohio River and Pigeon Creek
- 2010 – Evansville and the EPA and IDEM enter into an agreement to address the issue
- 2011 – Evansville initiates development of Integrated Overflow Control Plan (IOCP)
- 2013 – Evansville submits IOCP to the EPA and IDEM
- 2014 – The initial IOCP is rejected and the parties enter into negotiations
- 2016 – All parties come to a final agreement for design, construction, and monitoring improvements to the sewer system to reduce the frequency and volume of combined sewer overflows in Evansville
- 2016-2040 – Implementation of the IOCP program of projects, collectively called Renew Evansville

renew EVANSVILLE

Overview

What is it? Evansville's largest investment in clean water infrastructure that will significantly improve the sewer system with a 24-½ year, $729 M plan

RENEW Evansville will include:

- Upgrades to Existing Wastewater Treatment Facilities
- Construction of New In-System Storage Facilities
- Sewer Separation Projects
- Combined Sewer Overflow Treatment Facilities
- Inflow and Infiltration Reduction Projects
- Sanitary Sewer Capacity Projects

Progress to Date

14 projects scheduled in 2018-2019

10 upcoming Bid Advertisements before 2018 year end

On-going Projects

- Cass-Adams Relief Sewer (Under Construction)
- North Park I/I Reduction (Design Complete)
- West Plant Upgrades (In Design)
- East Plant Effluent Pump Station (In Design)
- East Plant Upgrades (In Design)
- Waterworks Road Relocation (In Design)

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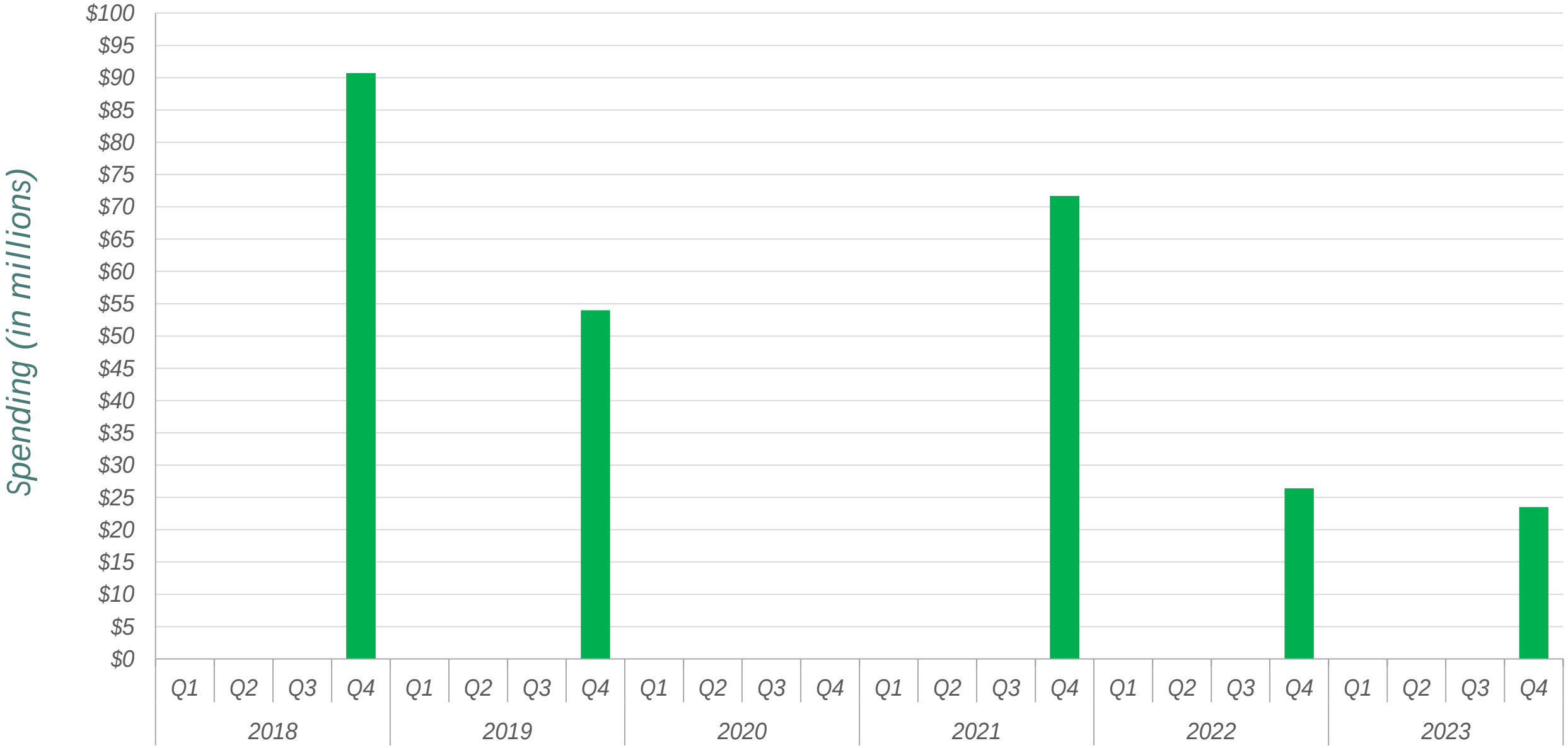
IOCP Sewer Spending - 5-Year Look Ahead by Quarter



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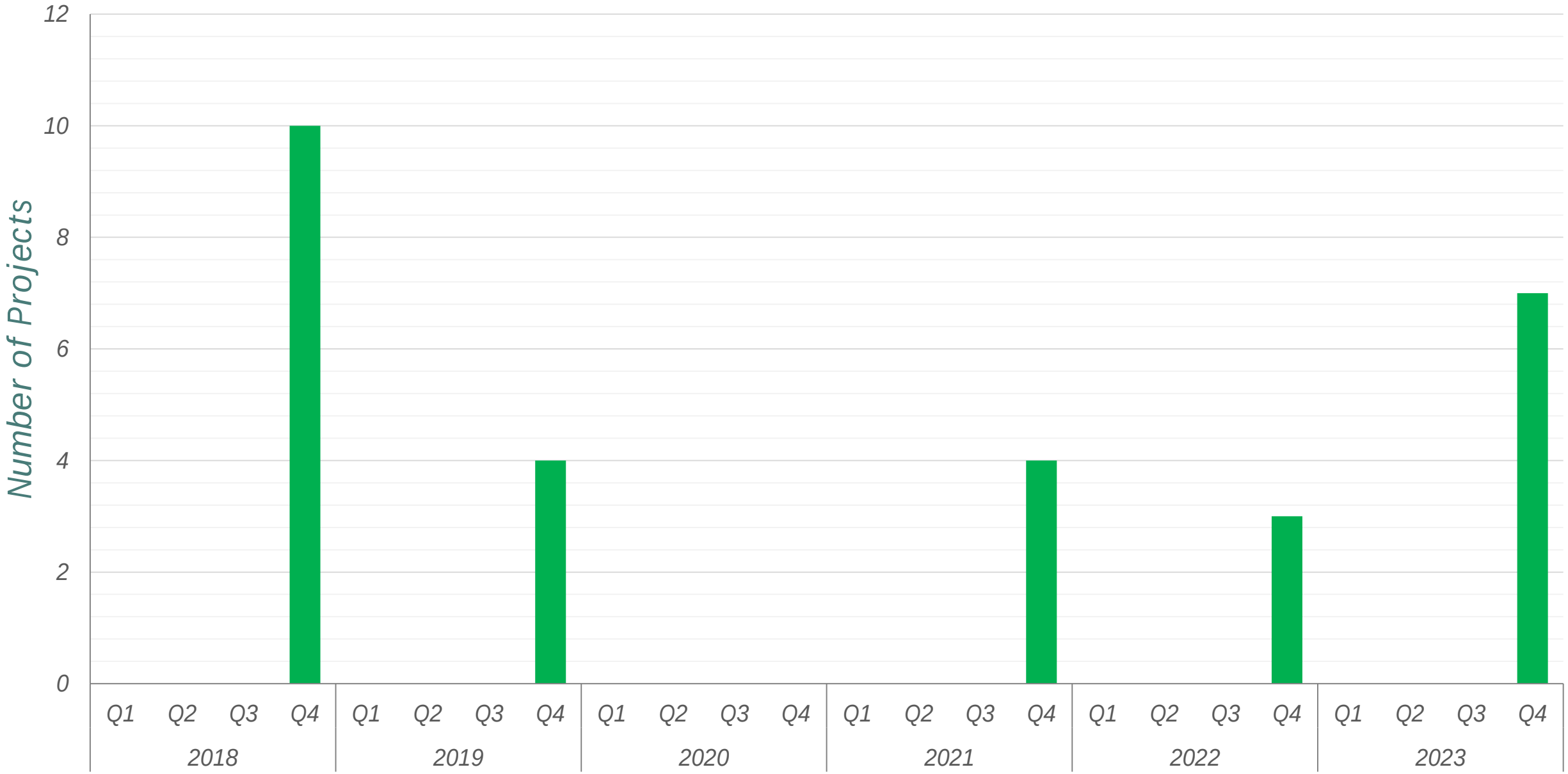
IOCP Projects Bidding - 5-Year Look Ahead by Quarter



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Upcoming Projects

	Estimated Cost	Bid Date
North Park Rehab Phase 2	$ 1.7 M	4th Qtr 2018
West Collection Real Time Controls	$ 1.1 M	4th Qtr 2018
Akin Park Storm Sewer	$ 3.0 M	4th Qtr 2018
Waterworks Road Relocation	$ 2.3 M	4th Qtr 2018
(4) East WWTP Effluent Sunrise Station	$ 20.0 M	4th Qtr 2018
West WWTP Capacity Expansion	$ 32.2 M	4th Qtr 2018
West WWTP Storage Basin	$ 30.4 M	4th Qtr 2018
(3) East WWTP Effluent Sunrise Station	$ 14.0 M	4th Qtr 2019
East WWTP Capacity Upgrades	$ 40.0 M	4th Qtr 2019
Millersburg/Hwy 41 Rehab	$ 0.6 M	4th Qtr 2021
Wetland Pump Station	$ 61 M	4th Qtr 2021
108” Wetland Conveyance Pipe	$ 7.5 M	4th Qtr 2021
Lloyd Basin Rehab	$ 2.6 M	4th Qtr 2021
E11 Basin Rehab	$ 4.4 M	4th Qtr 2022
Wetland Treatment System	$ 14.0 M	4th Qtr 2022
Wetland Treatment Disinfection	$ 8.0 M	4th Qtr 2022

Evansville WATER AND SEWER UTILITY

Non-IOCP Projects

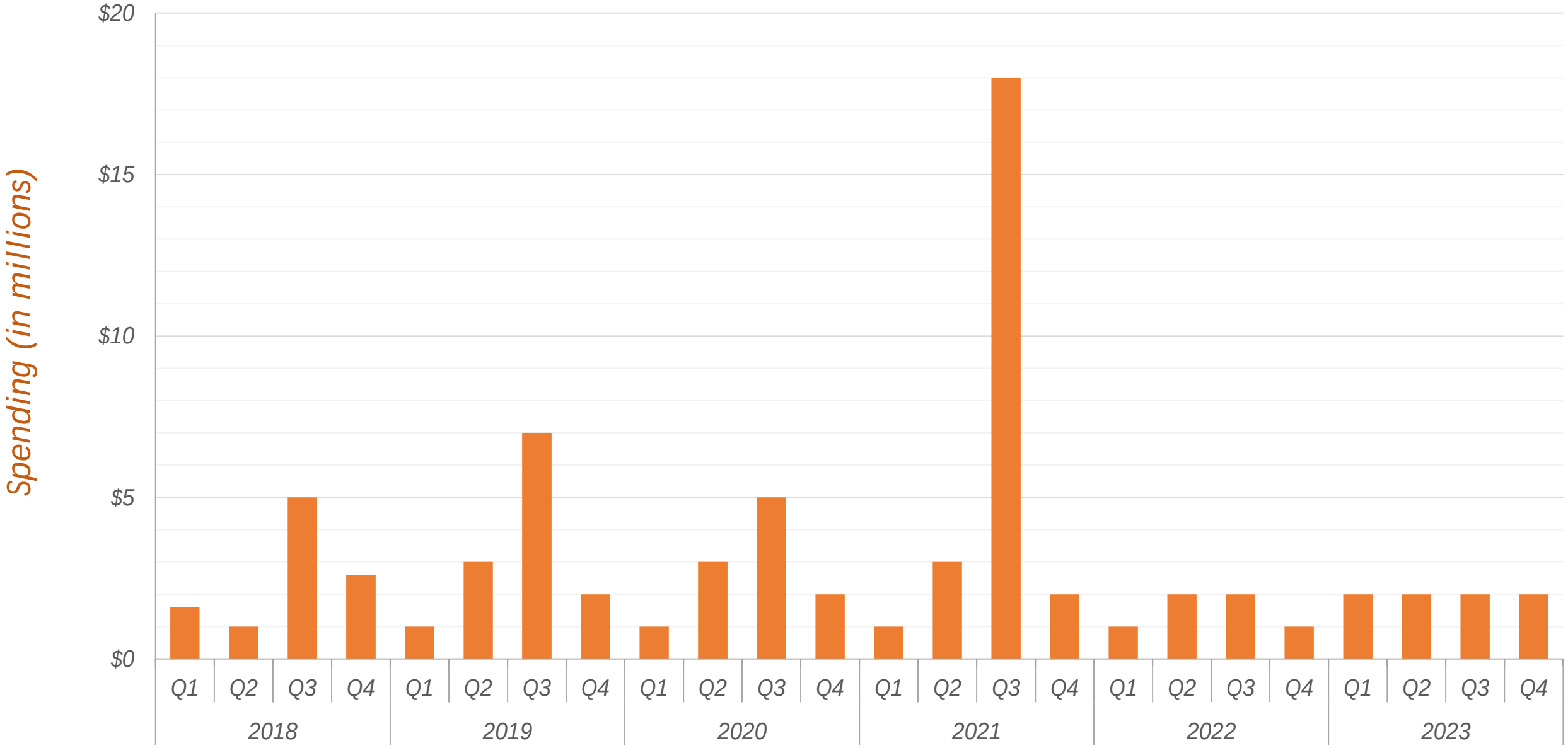
What is it? Collection system and Wastewater Treatment Projects not included in *Renew Evansville*

Non-IOCP Projects will include:

- 32 Lift Stations
  - 7 Gravity Extensions / Upgrades
    - Annual Sewer Lining and Sewer Repair
      - Miscellaneous Plant Work
        - Miscellaneous Collection System Projects, Vortex, and STEP
          - New Testing Lab

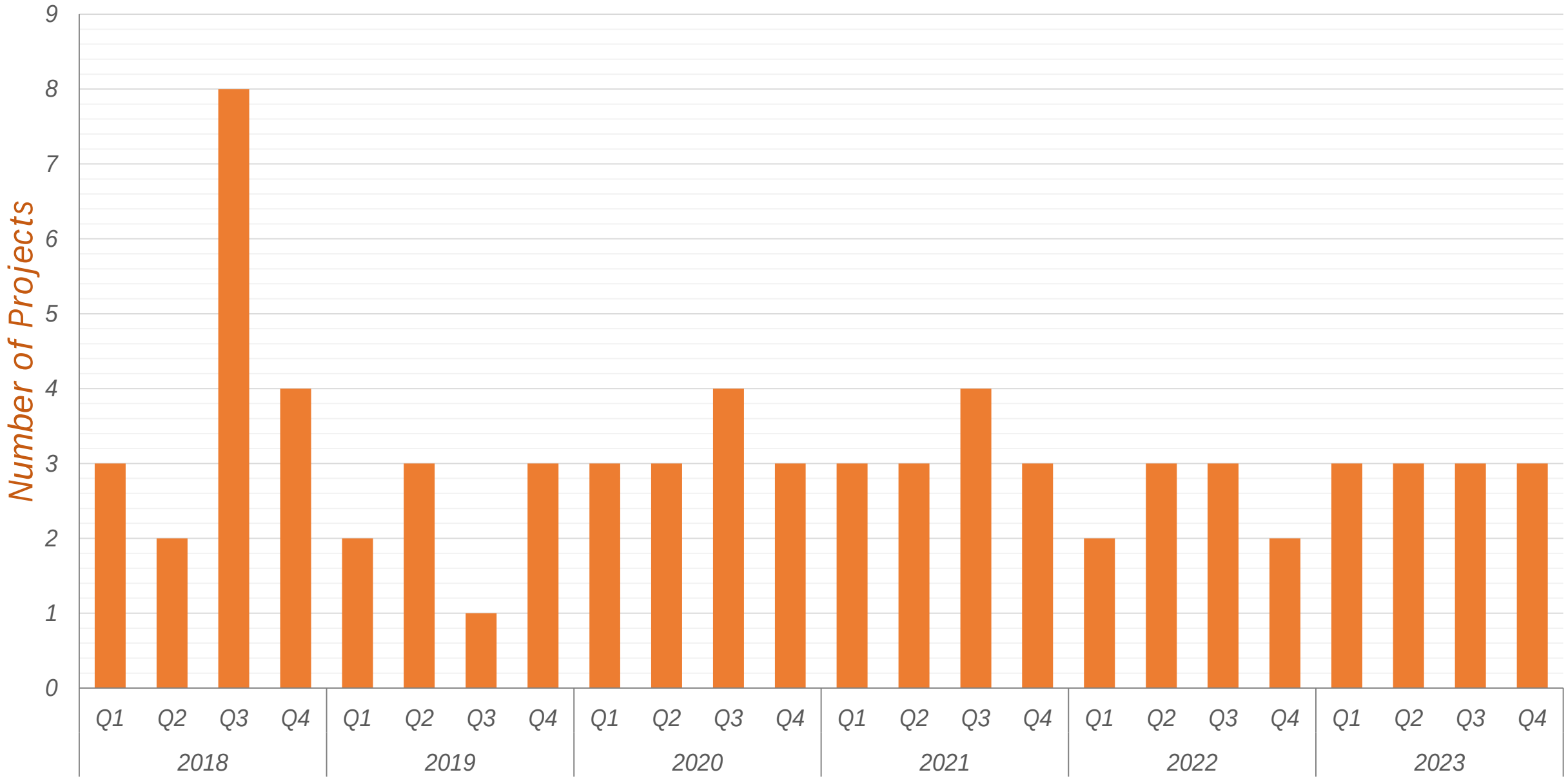
Evansville WATER AND SEWER UTILITY

Non-IOCP Projects Spending - 5-Year Look Ahead by Quarter



Evansville WATER AND SEWER UTILITY

Non-IOCP Projects Bidding - 5-Year Look Ahead by Quarter



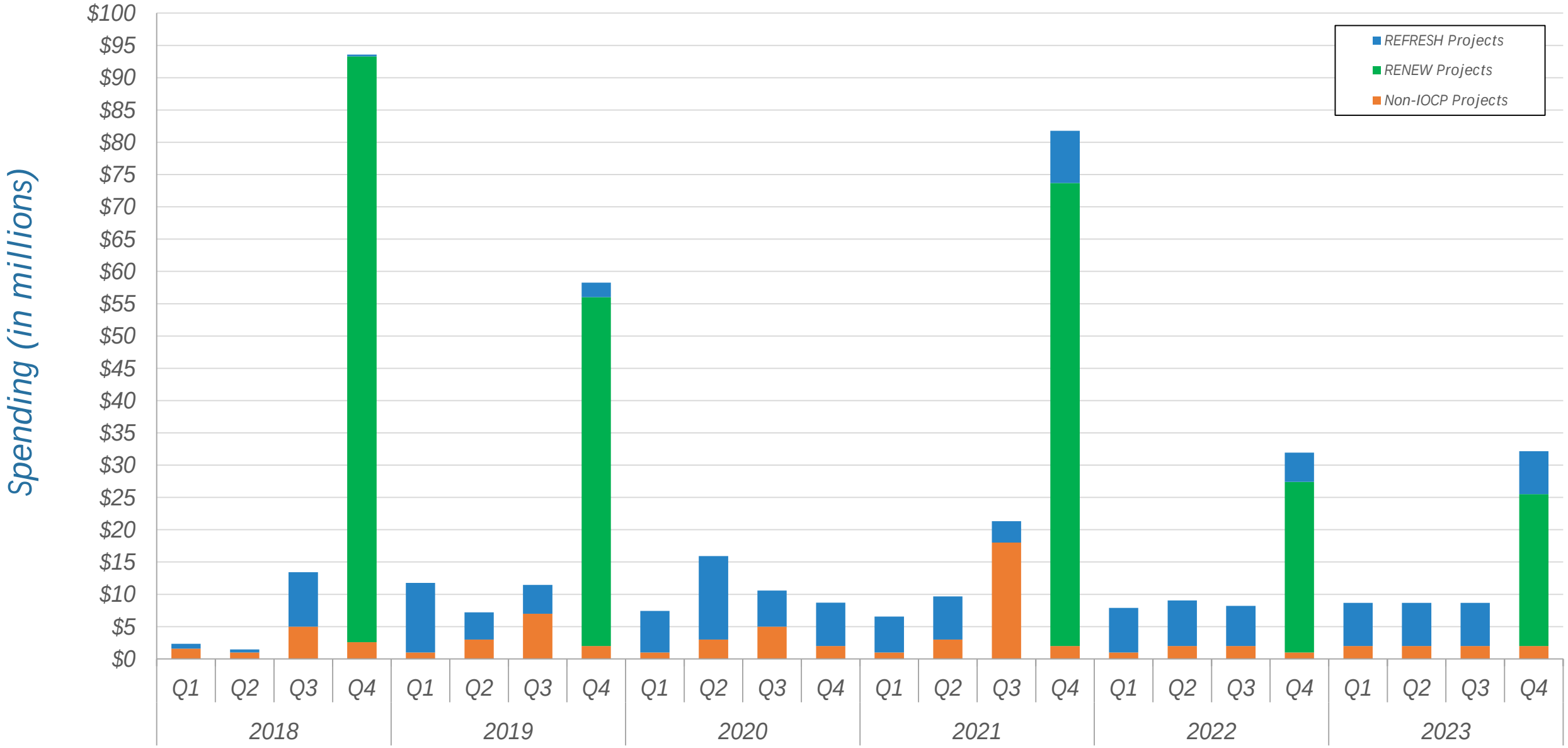
Evansville WATER AND SEWER UTILITY

Non-IOCP Upcoming Projects

Major Projects	Estimated Cost
Valley Downs Interceptor	$ 3 M
Wansford Lift Station	$ 30 M
East/West Secondary Clarifiers	$ 2 M
West Odor Control Carbon Filter	$ 1 M

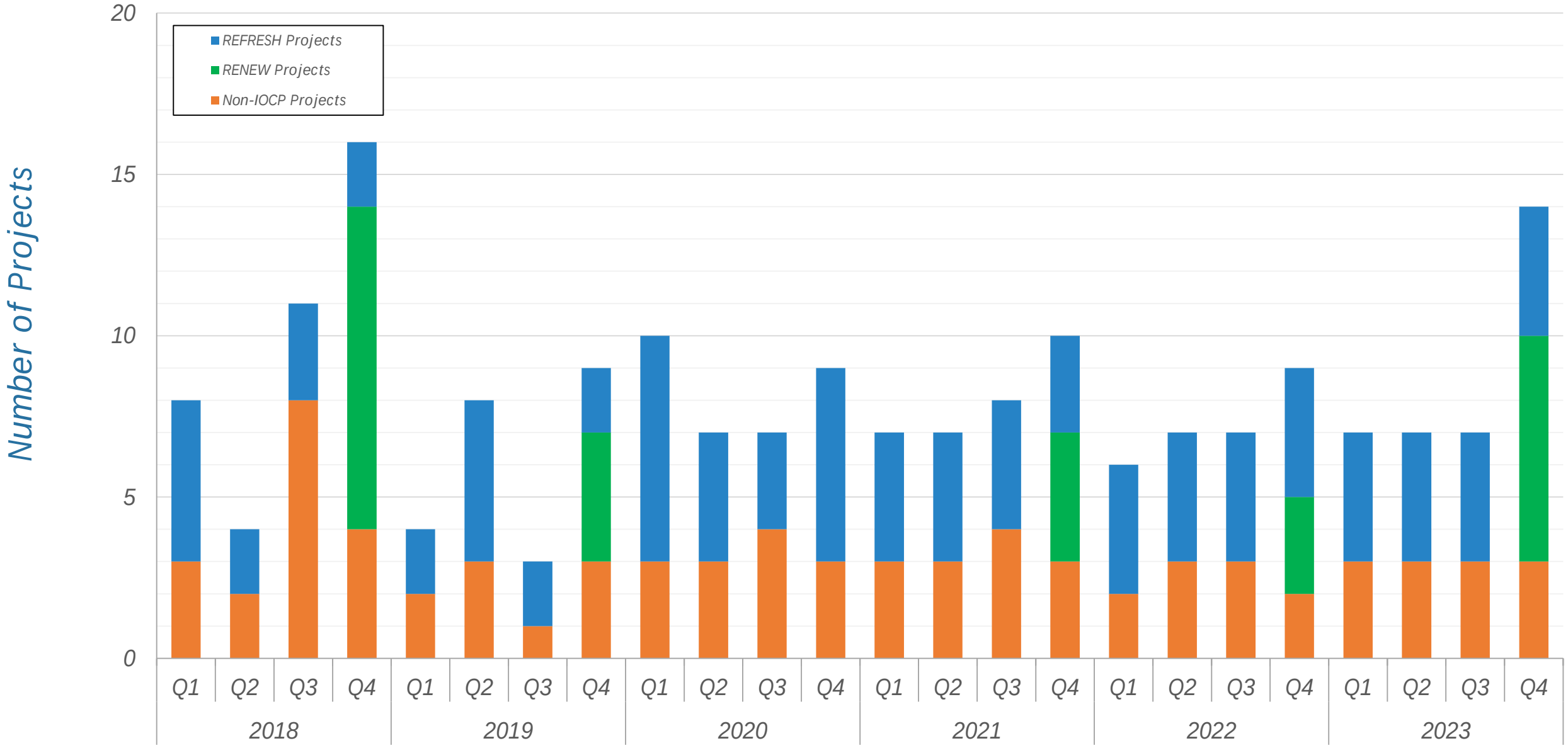
Evansville WATER AND SEWER UTILITY

Total Spending - 5-Year Look Ahead by Quarter



Evansville WATER AND SEWER UTILITY

Total Projects Bidding - 5-Year Look Ahead by Quarter



Minority / Women Business Enterprise Program Overview

- Participation Goals: 12% MBE and 7% WBE participation
- Meet with Compliance Officer 3 days prior to Bid Opening if unable to meet goals
- Program Requirements and Forms A through E provided with Bid Documents
- Self Performance Clause (Elimination)
- City of Evansville will engage MBE/WBE participation of all phases of every project that is bid (Design, Professional Services, Construction)
- What is Good Faith Effort
- Questions / Discussion Regarding M/W BE Program

Purchasing and Local Requirements

- Contractors and Sub-Contractors must be licensed in Evansville
- Responsible Bidder Ordinance (Evansville Municipal Code 3.95.040)
  - Form included with Bidding Documents:

City of Evansville, Indiana

RESPONSIBLE BIDDING ORDINANCE FORM

Municipal Code 3.95.040

All bids submitted in the amount of $150,000.00 or more shall comply with the requirements of Evansville Municipal Code (EMC) 3.90.040 ("Responsible Bidding Ordinance"). It is the bidding contractor's sole responsibility to review the Responsible Bidding Ordinance and provide all required documentation, statements and information no later than the public bid opening. Failure to comply with the Responsible Bidding Ordinance will result in rejection of the contractor's bid.

All bidders shall provide a written list that discloses the name, address, and type of work for each first-tier subcontract from which the bidder has accepted a bid and/or intends to hire on any part of the public work project, including individuals performing work as independent contractors. In accordance with EMC 3.90.110, all bidders shall adhere to City policy and procedures pertaining to minority-owned business and women-owned business utilization. Submittal requirements of

Open Question and Answer

Evansville
WATER AND SEWER UTILITY

Thank you for your time

Project	Description	2017	2018	2019	2020	4 Year Total
Frey Rd.	Existing 4" cast iron pipe and 2" galvanized steel pipe is in poor condition with a history of breaks and water quality (discoloration) issues. New 8" main (PVC -C900) main is proposed along this entire length (approx. 1950 feet). Replacement will also result in better flow and fire-protection.	$ 303,000.00				$ 303,000.00
Herndon Ave.	This project includes the replacement of approximately 900 feet of 2" galvanized steel pipe and 6" unlined cast-iron pipe with a new 8" PVC main along Herndon Ave. from Stringtown Rd. to Evans Ave. This will eliminate a dead-end that causes discoloration. The area also has a history of numerous break issues. This project will also include the replacement of services along the route.	$ 128,000.00				$ 128,000.00
Keck Ave.	This project includes the replacement of approximately 2,100 feet (Keck Ave. from Grand Ave. to Stringtown Rd.) of 8" unlined cast iron main with a new 12" PVC (C900) main. The existing main has an extensive history of breaks and, in some instances, property damage.	$ 360,000.00				$ 360,000.00
Kratzville Rd. - Phase IV - On Mill from Kratzville, to Big Ten Blvd.	This project includes the installation of approximately 1,800' of 12" PVC main, to eliminate a 12" dead-end main. This will improve flow characteristics (pressure issues), water quality and fire protection.	$ 260,000.00				$ 260,000.00
Lloyd Expwy. and 12th Ave. Water Vault	This vault is situated in the travel lanes of a major thouroughfare (S.R. 62) and, due to the difference in elevations of the adjacent pavement, needs adjusted to that adjacent pavement grade.	$ 35,000.00				$ 35,000.00
Lodge Ave. Main Replacement - Washington Ave. to Bellemeade Ave.	Project entails the replacement of an existing 8" cast iron main with a new 12" PVC (C900) line. This section of existing water main has outlived it's useful life and experiences a significant number of breaks.	$ 430,000.00				$ 430,000.00
Mohr Rd.	This project includes the installation of approximately 1,800 feet of 12" PVC (C900) main to tie two existing 12" dead-end mains together. This will convert approximately 1.5 miles of 12" main to a higher pressure zone which will greatly improve flow characteristics to a large number of customers, including many industrial accounts, and also provide better fire protection. This is a companion project to Kratzville Rd. Phase IV.	$ 260,000.00				$ 260,000.00

Project	Description	2017	2018	2019	2020	4 Year Total
New Harmony Road from Allens Lane to Harmony Way	2,200' (New Harmony Rd from Allens Ln., to Harmony Way) of new 12" PVC (C900) is proposed to replace an aged existing 4" cast iron main that is in poor condition and frequently breaks.	$ 536,000.00				$ 536,000.00
Olive St.	This project includes the replacement (with 8" PVC) or lining of approximately 2,500' (Olive St. from Rotherwood Ave. to cul-de-sac west of Harlan Ave.) of 6" un-lined cast iron water main. This section of existing 6" line has a history of discolored water and the proposed improvements will result in better water quality.	$ 287,000.00				$ 287,000.00
Sycamore St. Neighborhood	This project includes the replacement (with 8" PVC) or lining of approximately 4,000' (Sycamore St. from Willow Rd. to Runnymeade Ave.) of 6" unlined cast iron water main. This neighborhood regularly experiences dis-colored and proposed improvements will improve water quality.	$ 480,000.00				$ 480,000.00
Wills Ave. from Virginia St. to Michigan St.	The replacement of a 6" un-lined cast iron main with a new 8" PVC (C900) main is needed on Wills Ave. from Virginia St. to Michigan Ave. to eliminate numerous breaks and improved fire protection by providing more flow.	$ 385,000.00				$ 385,000.00
Wolcott Ave. west of Vanness Ave.	The existing 2" galvanized steel line along this section of Wolcott Ave. needs replaced with a new 8" PVC (C900) due numerous breaks and new hydrant needs to be installed for better fire protection.	$ 90,000.00				$ 90,000.00
Broadway from S Red Bank Road west to Schutte Road	Numerous breaks to the existing 4", 6", 8", and 12" cast iron main necessitate the need for replacement with a 12" PVC (C900) line which will also result in increased flow and better fire protection.	$ 3,025,000.00				$ 3,025,000.00
Harmony Way; Franklin Heights Neighborhood	Replace existing mains (4", 6" and 8" cast iron) on Harmony Way and in Franklin Heights neighborhood with 12" PVC (C900) to improve flow, fire protection and water quality to Reitz High School area and to eliminate water breaks.	$ 2,488,010.00				$ 2,488,010.00
Heidelbach Ave. Main Replacement - Morgan Ave. to Olmstead Ave.; Olmstead Ave. from Heidelbach Rd.to Stringtown Ave.	Replace approximately 5,400' of existing 12" cast iron main along Heidelbach Ave. from Morgan Ave. to Olmstead Ave. and along Olmstead Ave. from Heidelbach Ave. to Stringtown Rd. These water mains are in poor condition and break several times a year. New 12" PVC (C900) is proposed.	$ 1,490,000.00				$ 1,490,000.00
Hogue Road from N. Red Bank Road west to Williams Road	Replace existing 8" unlined cast iron main with new 8" PVC (C900) pipe due to numerous breaks.	$ 1,651,975.00				$ 1,651,975.00

Project	Description	2017	2018	2019	2020	4 Year Total
Lodge Ave. from Walnut St. to Riverside Dr.	Install new 12" PVC (C900) main to replace existing 8" cast iron with due to numerous breaks and the need for better flow and fire protection.	$ 2,290,750.00				$ 2,290,750.00
Morgan Ave.	This project includes the replacement of approximately 1,700' of 12" unlined cast iron pipe with a new 12" PVC (C900) main. This line goes under U.S. 41 and broke several years ago and had to be removed from service because the break was inaccessible. Also need to restore the feed across U.S. 41 to improve operability of the system in the area. The remaining piece of main that is still in service breaks frequently and causes property damage due to the large amounts of water carried by the main.	$ 665,054.00				$ 665,054.00
Schaller Lane	Replace approximately 1,200' of existing main along Schaller Ln. (part of Vanderburgh Neighborhood project).	$ -				$ -
St. George Rd. - From Twickingham Dr. to Oak Hill Rd.	Approximately 3,760' of 8" PVC (C900) needed to replace the existing 4" cast iron water main that breaks serveral times per year. The improvements will also result in improved fire protection.	$ 1,034,000.00				$ 1,034,000.00
Stringtown Road Main Replacement from Louisiana Street to Morgan Avenue	This project will include the replacement of approximately 1,500' of 16" un-lined cast iron pipe with a new 16" PVC (C905)water main. This project also includes the tie-ins to several side streets. The number of breaks and size of the line (flow volume) result in property damage when breaks occur due to the close proximity of the main to many businesses.	$ 764,238.00				$ 764,238.00
Vanderburgh Neighborhood	This project includes the replacement of approximately 6,400' feet of 2", 2 1/4", 4", 6", and 8" galvanized steel, transite, and unlined cast-iron pipe with new 8" PVC (C900). This will eliminate approximately 500 feet of 12" un-lined cast iron main that is currently under a railway switchyard and in-accessible as well as eliminate 2 ditch crossings which exposes the lines to the atmosphere. This project will improve water quality to the area as well as provide a large area with better fire protection.	$ 846,320.00				$ 846,320.00
Weinbach Ave. from Lloyd Expwy. to Pollack Ave.	Replace deteriorated, existing 8" and 12" cast iron main that frequently breaks along Weinbach Ave. from Lloyd Expwy. to Pollack Ave. with new 12" PVC (C900) pipe.	$ 3,066,250.00				$ 3,066,250.00

Project	Description	2017	2018	2019	2020	4 Year Total
Eichel Road	New 12" PVC (C900) main needed to connect system under U.S. 41 and replace frequently breaking neighborhood main (existing 6" cast iron). Improved fire protection will also be achieved.		$ 337,500.00			$ 337,500.00
Bartels Lane from Evergreen Road south to the dead-end	Replace existing 4" asbestos concrete (transite) main with 8" PVC (C900) due to numerous breaks on this aged main that has outlived it's useful life.		$ 329,400.00			$ 329,400.00
Bayard Park Dr. Main Replacement from Lodge Ave. to Weinbach Ave.	Replace approximately 2,000 ' of existing 6" cast iron main along Bayard Park Dr. from Lodge Ave. to Weinbach Ave. with 8" PVC (C900) due to numerous breaks.		$ 373,000.00			$ 373,000.00
Bellmeade Ave. east of Lodge Ave.	Replace approximately 200' of existing 2" galvanized line along Bellemeade Ave. (east of Lodge Ave.) with a new 4" PVC (C900) pipe; improvements will result in improved water quality and flow.		$ 109,200.00			$ 109,200.00
Ingle Ave. from Forest Ave. to Marion Ave.	Approximately 1015' of new 8" PVC (C900) needed to replace existing 2" galvanized steel and 6" cast iron main and eliminate numerous breaks and improve fire protection and water quality.		$ 250,000.00			$ 250,000.00
Lant Circle - Lodge to Bayard Park	Approximately 1,000' of 8" PVC (C900) needed to replace 6" cast iron due to numerous breaks.		$ 240,000.00			$ 240,000.00
Marshall Ave Main Replacement Washington Ave to Covert Ave	Replace existing 6" cast iron main that is at the end of it's life expectancy and frequently breaks with an new 8" PVC (C900) line.		$ 490,000.00			$ 490,000.00
North Main Street Main Replacement Wedeking Ave to Richardt Ave	Replace existing 2" galvanized steel line with 8" PVC (C900) on N. Main St. from Wedeking Ave. to Richardt Ave. due to numerous breaks on this existing aged line.		$ 380,000.00			$ 380,000.00
Poplar Grove Neighborhood	In order to improve water quality and fire protection and eliminate numerous breaks, replace existing 2" galvanized steel and 6" & 8" cast iron mains along Austin Ave., Addison Ave., Marion Ave., Tunis Ave., Edgewood Ave., Hillcrest Terrace, and Walker Ave. with 8" PVC (C900).		$ 2,191,200.00			$ 2,191,200.00
Vanderburgh - Ph II	Replace 2" galvanized steel pipe, 2 1/4" cast iron pipe and 4" cast iron pipe with 8" PVC (C900) due to numerous breaks and the need to improve water quality and fire protection.		$ 461,000.00			$ 461,000.00
Melody Hill South of St. George	Replace deteriorated 4" and 6" cast iron lines with 8" PVC (C900) in Melody Hill Subdivision (south of St. George Rd.) due to numerous breaks and the need for improved water quality and fire protection.		$ 2,202,000.00			$ 2,202,000.00

Project	Description	2017	2018	2019	2020	4 Year Total
Presidents Neighborhood Central	Replace mains on Adams, Madison, Monroe, Jackson, Taylor and Ravenswood between Lodge and Rotherwood. Also, Brookside, Bennighof, Englewood. Existing are 2" galvanized steel pipe and 6" cast iron pipe; proposed is 8" PVC (C900) - numerous breaks - improved water quality and fire protection.		$ 2,169,700.00			$ 2,169,700.00
Presidents Neighborhood West	Replace mains on Harlan, Henning, Madison from Washington to Covert (near Marshall); replacing 6" cast iron with 8" PVC (C900); numerous breaks - improved water quality and fire protection.		$ 1,141,100.00			$ 1,141,100.00
Sweetser Rotherwood Area	Replace mains on Waggoner, Cass, Ridgeway, Sweetser, Conlin, Crystal Court, Plantation, Rotherwood, Frederick and Norman in area bounded by Covert, Weinbach, Pollack and Lodge; replacing 6" cast iron pipe with 8" PVC (C900); numerous breaks - improved fire protection - water quality.		$ 3,584,800.00			$ 3,584,800.00
Western Terrace - Ph II	Replacing 2" galvanized steel, 4" and 6" cast iron with 8" PVC (C900) - numerous breaks - improved water quality and fire protection.		$ 1,518,000.00			$ 1,518,000.00
Alvord & Columbia. On Alvord from Vogel to Columbia, and on Columbia from Alvord to Kelsey	Replace 2,600' of existing 4" and 6" cast iron lines with new 8" PVC (C900) lines. The existing lines are in poor condition and break several times a year.			$ 338,000.00		$ 338,000.00
Bell and Lemcke Neighborhood	Replace existing 2" galvanized steel and 4" & 6" cast iron with new 8" PVC (C900) lines along Marine Ave., Illinois St., Indiana St., Franklin St., Lemcke Ave., Bell Ave. and Hess Ave.			$ 1,325,490.00		$ 1,325,490.00
Bexley Court Main Replacement	Needed improvements include the replacement of approximately 1,300' of existing 8" cast iron pipe on Bexley Court with new 8" PVC (C900) pipe. Project will address the ongoing issue of numerous breaks and also result in increased fire protection.			$ 189,000.00		$ 189,000.00
Byerson Drive - Mariview Ct, Hillview Ct, Arlington Ct	Replace aged, existing 4" and 6" cast iron mains with numerous breaks on Byerson Dr., Mariview Ct., Hillview Ct., and Arlington Ct. with new 4" and 8" PVC (C900) pipe.			$ 585,600.00		$ 585,600.00
Cardinal Drive Main Replacement East of Stringtown	This project entails the replacement of a deteriorated 8" cast iron main with a history of numerous breaks with a new 8" PVC (C900) main on Cardinal Dr. from Stringtown Rd. to a point approximately 1,200' east of Stringtown Rd.			$ 288,000.00		$ 288,000.00

Project	Description	2017	2018	2019	2020	4 Year Total
Charlotte Ave Russel Ave	Installation of approximately 2,400' of new 8" PVC (C900) waterline to retire exisiting 2" galvanized steel and 4" cast iron waterlines that have deteriorated and have extensive break histories. The project will also result in increased fire protection.			$ 400,000.00		$ 400,000.00
Delaware St. Gate Valve Valve Replacement Delaware and Lafayette	This project entails the replacement of a 16" lay-down, geared gate valve that is broken in the open position.			$ 13,000.00		$ 13,000.00
Fendrich Neighborhood	Replace aged 4" asbestos concrete (transite) and 6" cast iron mains with 8" PVC (C900) on Richardt Ave., Oakland Ave, and Herndon Ave. to improve distribution, water quality, and fire protection to the vicinity.			$ 740,000.00		$ 740,000.00
First Ave. - From Concord to Hanover	This project entails the tie-in (to 24" existing cast iron main beneath First Avenue) of all of the side streets in that vicinity that dead-end just east of First Ave. Those dead-ends mains consist of 4" and 6" cast iron lines on Concord Ave., Hanover Ave., Thornberry Ave., and Warren Ave. The result of this project will be improved water quality.			$ 82,000.00		$ 82,000.00
Gayne West of Vannness - (6" AC)	Project includes replacement of a 6" transite (asbestos concrete) main with an 8" PVC (C900). There is a history of breaks on this section of existing main and the EWSU is working to eliminate this material (asbestos concrete) from it's system.			$ 420,000.00		$ 420,000.00
Lake Dr - Oak Hill Rd. East	This project entails the replacement of a 6" cast iron main along Lake Dr. with a history of numerous breaks. As a result of this existing main having outlived it's useful life, a new 8" PVC main (C900) is proposed and this main will also result in increased fire protection.			$ 384,000.00		$ 384,000.00
Newburgh Rd - From Lincoln Station to Kingswood	Approximately 1,975' of 8" PVC (C900) is required due to numerous breaks and the need for improved water quality.			$ 300,000.00		$ 300,000.00
Southeast Blvd - Phase II - South of Washington	In order to eliminate dead ends and improve water quality, the replacement of approximately 200' of existing 8" cast iron pipe with 8" PVC (C900) pipe is necessary.			$ 41,000.00		$ 41,000.00
Upper Mt. Vernon Rd. - Service changeovers - From Craig to Boehne Camp	Services need to be changed over from older, existing 6" cast iron pipe to newer, existing 16" water main. The changes will result in improved residential water quality in this vicinity.			$ 110,000.00		$ 110,000.00

Project	Description	2017	2018	2019	2020	4 Year Total
Virginia Avenue	Replace approximately 1,600 ' of main on Virginia Ave. between Kelsey and Boeke. Existing is 4" cast iron - proposed is 8" PVC (C900); improved fire protection and water quality.			$ 338,000.00		$ 338,000.00
W. Maryland St. - From New Harmony Way to Wessel Ln.	Replace 6" & 8" parallel cast iron mains with new 12" PVC (C900) on W. Maryland St. (from New Harmony Way to Wessel Ln.) due to numerous breaks and the need for improved water quality.			$ 525,000.00		$ 525,000.00
Alvord & Virginia	Replace 2", 4" and 6" mains with new 8" PVC (C900) main on Virginia, Delaware, Iowa, Columbia, Michigan, Franklin, Spring, Kelsey, Alvord, Illinois, Indiana and Taft due to numerous breaks; improved water quality and fire protection.			$ 3,190,470.00		$ 3,190,470.00
Boeke Road Main Replacement from Morgan to Washington	Replace existing 6" cast iron water line with new 12" PVC (C900) on Boeke Rd. from Morgan Ave. to Washington Ave. due to numerous breaks and need for improved fire protection.			$ 2,906,750.00		$ 2,906,750.00
Lakewood Hills Subdivision	Replace existing 2" galvanized steel and 6" cast iron lines on Wayside Dr., Cottage Dr., Lake Dr., South Court Dr. and North Court Dr. with new 8" PVC (C900) due to numerous breaks and need for improved water quality and fire protection.			$ 2,208,000.00		$ 2,208,000.00
Newburgh Rd - From Lincoln Station to Kingswood	Replace approximately 10,000' of 6" and 8" cast iron main on Newburgh Rd. from Outer Lincoln Ave. to Kingswood Dr. Replace approximately 2,855' of 6" cast iron main on Plaza Blvd. from Newburgh Rd. to Lincoln Ave. with 8" PVc (C900); replace approximately 825' of 2" galvanized steel line on Burkhardt Rd. from Newburgh Rd. to city pressure zone limit with 6" PVC (C900); replace approximately 455' of 6" cast iron main on Burkhardt Rd. with new 6" PVC (C900) to Washington Ave.; replace 2 1/4" cast iron line along Arcadian Hwy. with 410' of 4" PVC (C900); replace 1,300 feet of 6" cast iron line with 8" PVC (C900) on Burkhardt Rd. from Newburgh Rd. to Lincoln Ave.; tie in dead end on Lincolnwood Dr. with 280' of 4" PVC (C900). Entire area has history of numerous breaks and a need for improved water quality and fire protection.			$ 4,058,250.00		$ 4,058,250.00
Vogel - Spring Park	Replace existing 6" and 8" cast iron mains on Vogel Rd., Columbia St., Lincoln Park Dr., Oregon St., Fairlawn Ci., Alvord Blvd., Kelsey Ave., and Spring St.			$ 2,249,400.00		$ 2,249,400.00
Erie Ave. & Washington Ave.	Eliminate dead-end lines on Erie Ave. and Washington Ave.				$ 100,000.00	$ 100,000.00

Project	Description	2017	2018	2019	2020	4 Year Total
Boehne Camp Road	Tie in dead-end line on Boehne Camp Rd. to Upper Mount Vernon Rd. (950' of 8" existing - increase to 12").				$ 163,000.00	$ 163,000.00
Cass Avenue/ Sweetser /Beckman / Graham / Vann Area	Eliminate dead-end water mains on Cass Ave., Sweetser Ave., Beckman Ave., Graham Ave., and Vann Ave.				$ 480,000.00	$ 480,000.00
Christ Rd - From Kerth to Fares	Replace approximately 480' of 4" cast iron maiin with new 8" PVC (C900) pipe.				$ 100,000.00	$ 100,000.00
Covert Ave. - From Thompson Ave. to Bonnieview	Eliminate dead-end water mains on Covert Ave. from Thompson Ave. to Bonnie View Dr.				$ 192,000.00	$ 192,000.00
Delaware St - Service changeovers from Heidelbach to Lafayette	Change over services along this section of Delaware St. from the 2" line to the 16" line and then retire the 2" line.				$ 11,500.00	$ 11,500.00
Helfrich Ave - From Broadway to Arlington	Approximately 825' of 6" PVC (C900) needed to replace 2" galvanized steel line; requires auto-flush device and air release valve.				$ 165,000.00	$ 165,000.00
Helfrich Ave - From Broadway to Saunders	Approximately 1,100' of new 8" PVC (C900) needed to replace existing 2" galvanized steel water main. The new water main will provide better fire protection.				$ 200,000.00	$ 200,000.00
Inglefield Road	Approximately 1,320' of 12" PVC (C900) needed along Inglefield Rd. between U.S. 41 to Princeton Rd.				$ 490,000.00	$ 490,000.00
Jackson Ave./Dexter Ave.	Replace 6" un-lined cast iron pipe with a new 8" PVC (C900) line on Jackson Ave. and Dexter Ave.				$ 300,000.00	$ 300,000.00
Kansas Rd - Phase I - From existing main to Greenriver Rd.	Approximately 1,850' of 12" PVC (C900) needs to be installed on Kansas Rd. to eliminate dead-ends and create a loop.				$ 400,000.00	$ 400,000.00
Kansas Rd - Phase II - Petersburg to Massey Dr	Approximately 2,200' of 12" line needed on Kansas Rd. from Petersburg Rd. to Massey Dr. This would eliminate dead ends and create a loop by connecting two 12" lines.				$ 540,000.00	$ 540,000.00
Kathleen Ave Main Replacement East of Boeke	Replace existing 4" cast iron line with approximately 320' of 8" PVC (C900) on Kathleen Ave. east of Boeke Rd.				$ 167,000.00	$ 167,000.00
Kerth Ave. - From St. George to Christ	Approximately 1,220' of new 8" PVC (C900) needed to replace existing 4" cast iron water main.				$ 230,000.00	$ 230,000.00
Morton from Franklin to Division	Need to replace existing 6" cast iron line along Morton Ave. with new 12" PVC (C900) to connect Franklin St. with 20" line along Division St. for improved water quality.				$ 240,000.00	$ 240,000.00
Ruston Lane - Existing Dead-end to Hwy 57	Approximately 150' of 12 PVC (C900) needed to eliminate dead-end water main. This will help water flow to the northeast side of Evansville's distribution system.				$ 50,000.00	$ 50,000.00
S. Hebron Ave. & Washington Ave.	Eliminate dead-end at S. Hebron Ave. and Washington Ave.				$ 180,000.00	$ 180,000.00

Project	Description	2017	2018	2019	2020	4 Year Total
Schmidt Lane - Oak Hill east to dead-end	Replace existing 4" cast iron main along Schmidt Ln. from Oak Hill Rd. east to dead-end.				$ 160,000.00	$ 160,000.00
Stanley Ave.	Replace existing 6" unlined cast iron main with new 8" PVC (C900).				$ 380,000.00	$ 380,000.00
Tupman Rd. north of Upper Mt. Vernon - (4" AC)	Replace existing 4" concrete asbestos (transite) line with 8" PVC (C900) on Tupman Rd. north of Upper Mt. Vernon Rd.				$ 320,000.00	$ 320,000.00
Wall Street	Existing water main is in poor condition and breaks several times a year. This main does extreme damage when it breaks and a new 8" PVC (C900) line is needed from Linwood Ave. to Evans Ave.				$ 160,000.00	$ 160,000.00
Washington Ave. - West of Martins lane	Approximately 1,100' of new 8" PVC (C900) line is needed to replace existing 2" galvanized steel and 4" cast iron lines in poor condition.				$ 253,000.00	$ 253,000.00
7th Avenue Main Replacement Shanklin St. to Florida Shanklin St. 7th to Fulton	Approximately 1,240' of new 8" PVC (C900) needed. This existing main is bedded in cinders and is in very poor condition; 7th Ave. from Shanklin St. to Florida St. and Shanklin St. from 7th Ave. to Fulton Ave.				$ 547,000.00	$ 547,000.00
First Ave.	Install new 36" main from 3rd Ave. to Pigeon Creek bridge; install 36" main from Pigeon Creek bridge to Diamond Ave.; install 36" main from Diamond Ave. to First Ave. pump station at Ivy Tech College.				$ 4,195,000.00	$ 4,195,000.00
Maplewood	Replace mains on Herbert Ave. from Riverside Dr. to Lodge Ave. and on Maplewood Ci. and Pollack Ave. from Herbert Ave. to Lodge Ave.				$ 525,000.00	$ 525,000.00
Ohio Street - 24" line across Pigeon Creek	Install a second line across Pigeon Creek at Ohio St. to tie in the new 24" main to the 12" line on the west side of the creek, and then back into the 24" line at Lloyd Expwy.				$ 2,215,000.00	$ 2,215,000.00
Presidents Neighborhood East	Replace mains on Monroe Ave. and Taylor Ave. from Rotherwood Ave. to Weinbach Weinbach Ave. Also, replace mains on Norman Ave. and Frederick Ave. from Taylor Ave. to Ravenswood Dr.				$ 739,850.00	$ 739,850.00
Willow and Division Trunk Lines	Installation of approximately 1,630' of 24" trunk line on Willow St. from Division St. to Virginia St. and approximately 1,245' of 16" trunk line on Division St. from Willow St. to Rotherwood Ave.				$ 1,841,930.00	$ 1,841,930.00

Project	Description	2017	2018	2019	2020	4 Year Total
Hydrant Replacement Project	We have approximately 6,000 fire hydrants in the system and are adding to that number annually with the acceptance of new subdivisions into the system. Many of the hydrants are currently over 60 years old. Therefore, we have started a hydrant replacement schedule where the goal is to replace approximately 150 hydrants per year. We currently have a comprehensive hydrant inspection program and can target the hydrants in the worst condition for replacement.	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 275,000.00	$ 1,025,000.00
Valve Replacement Project	We have a valve exercise program in place to ensure proper operability of the system. As we are moving through the system we find valves that are in-operable or broken. These valves must be repaired or replaced to restore proper operability to the system.	$ 100,000.00	$ 110,000.00	$ 110,000.00	$ 110,000.00	$ 430,000.00
Annual Meters	Miscellaneous meter items needed on an annual basis: industrial meters, meter reading equipment, new service connections, resetters, and residential meters.	$ 701,450.00	$ 736,500.00	$ 736,500.00	$ 736,500.00	$ 2,910,950.00
Distribution System Improvements	These are non-routine, unexpected issues that are encountered throughout the year that cannot be foreseen and critical to maintain service.	$ 248,000.00	$ 260,000.00	$ 260,000.00	$ 260,000.00	$ 1,028,000.00
Annual Blow-Offs	These are auto-flush devices that are installed throughout the system on dead-end lines to improve water quality.	$ 38,000.00	$ 39,000.00	$ 39,000.00	$ 39,000.00	$ 155,000.00
Lakeview Blvd.	Change services over from existing 2" galvanized steel line to an existing 16" cast iron main (approximately 8 services).		$ 30,000.00			$ 30,000.00
Southeast Blvd. - Phase I (tie-in at Powell St.)	Tie-in to Powell St. to eliminate dead-end water main that is creating poor water quality conditions.			$ 35,000.00		$ 35,000.00
Edgewood Ave. and Marine Ave.	Need to eliminate dead-end lines for better water quality and improved fire protection. Approximately 850' of 8" PVC (C900) pipe required.				$ 270,000.00	$ 270,000.00
Franklin St. from N. Kentucky Ave. to N. Morton Ave.	Need to replace existing 6" and 12" cast iron mains with new 12" PVC (C900). Services must also be changed over. Existing lines have numerous breaks and project will result in better water quality as well since there have been issues with dis-coloration.				$ 400,000.00	$ 400,000.00
	Annual Total	**$ 22,213,047.00**	**$ 17,202,400.00**	**$ 22,122,460.00**	**$ 17,435,780.00**	**$ 78,973,687.00**

Project	Description	2017	2018	2019	2020	4 Year Total
Vehicle Replacement Program	This program will replace aging vehicles in the fleet, many of which are currently out of service. The oldest vehicles and those in the worst condition will be retired on an annual basis in order to maintain a reliable fleet and minimize the replacement cost.	$ 273,000.00	$ 310,400.00	$ 440,000.00	$ 93,800.00	$1,117,200.00
Dump Truck Replacement Program	This replacement program is for dump trucks and valve trucks on a regular basis as these trucks run every day and are needed in emergency situations to maintain the system.	$ 120,000.00	$ 120,000.00	$ -	$ 132,000.00	$372,000.00
	Annual Total	**$ 393,000.00**	**$ 430,400.00**	**$ 440,000.00**	**$ 225,800.00**	**$1,489,200.00**

Project	Description	2017	2018	2019	2020	4 Year Total
Utility Machine Equipment	Copiers, printers, GPS units, etc.	$ 44,000.00	$ 46,000.00	$ 46,000.00		$ 136,000.00
	Annual Total	**$ 44,000.00**	**$ 46,000.00**	**$ 46,000.00**	**$ -**	**$ 136,000.00**

Project	Description	2017	2018	2019	2020	4 Year Total
Equipment Replacement Program	This is a trade-in program for our backhoes where we trade every two years or approximately 2,500 hours. Since we rely on our backhoes to run every day without downtime, we trade often enough for them to remain reliable and keep them under warranty. This also includes other heavy equipment such as hydraulic hammers.	$ 119,000.00	$ 60,000.00	$ 60,000.00	$119,350.00	$ 358,350.00
	Annual Total	**$ 119,000.00**	**$ 60,000.00**	**$ 60,000.00**	**$ 119,350.00**	**$358,350.00**

Project	Description	2017	2018	2019	2020	4 Year Total
Bike Path West of U.S. 41 - From Ravenswood Ave. to Adams Ave.	Eliminate dead-end water mains along proposed bike path west of U.S. 41 from Ravenswood Ave. to Adams Ave. (approximately 2,000' of 16" C-905 pipe). Improved water quality and fire protection will result.	$500,000.00	$ -	$ -	$ -	$500,000.00
Washington St. and Second St. Road Improvements	Replace water line within road project limits. Replace approximately 1,937' of 8" cast iron pipe on Washington St., Second St., and Parrett St. south of Second St. with 8" PVC (C900). Replace 460' of 16" cast iron pipe on Adams Ave. and Second St. with 16" PVC (C905). Although prompted by the road improvements, the existing water mains have outlived their useful life and need replaced.	$ -	$646,070.00	$ -	$ -	$ 646,070.00
INDOT Relocations	In addition to those known projects, there are other local and state transportation projects in the works for which relocation of water mains, the cost of which can only be estimated at this time, will be required due to conflicts with those transportation improvements.	$4,000,000.00	$ 3,353,930.00	$ 4,000,000.00	$ 4,000,000.00	$15,353,930.00
	Annual Total	**$ 4,500,000.00**	**$ 4,000,000.00**	**$ 4,000,000.00**	**$ 4,000,000.00**	**$16,500,000.00**

Project	Description	2017	2018	2019	2020	4 Year Total
Preliminary Engineering for Treatment Plant	See below.	$ 5,000,000.00	$ 5,000,000.00	$ -	$ -	$ 10,000,000.00
Raw Water Main and Treatment Plant Property Acquisition	See below.	$ 650,000.00	$ -	$ -	$ -	
	Annual Total	**$ 5,650,000.00**	**$ 5,000,000.00**	**$ -**	**$ -**	**$ 10,650,000.00**

Existing Plant

The existing Water Treatment Plant (WTP) is a conventional water treatment facility that uses the Ohio River as source water rated at 60 million gallons per day (MGD). The plant's intake facility (low service pump station) is located approximately one mile upstream of downtown Evansville. The source water quality and temperature can vary significantly throughout the year based upon the season, rainfall events both locally and upstream, and any spills or algae blooms that may occur upstream.

The WTP consists of two inter-connected treatment systems, referred to as the north and south plants, each with a hydraulic capacity of approximately 30 MGD. Raw surface water is pumped, coagulated, flocculated, and settled in the primary and secondary sedimentation basins for removal of most of the settleable solids from the raw water. Settled water enters the filters for removal of non-settling floc, micro-organisms such as algae and bacteria, and metallic ions. The filtered water is stored in clearwells designed to achieve the required contact time (CT) prior to being pumped to the distribution system via the high service pump stations.

The existing facility was constructed in stages, beginning with a since-abandoned water intake from the Ohio River in the late 1800s that was used for fire protection. The oldest major unit processes still in service are filter nos. 13 through 16 that were constructed in the late 1930s. The newest, filter nos. 35 and 36, were completed in 2008. Other than the newest set of filters, most of the rest of the facility processes are well past their expected service life and are in need of replacement or major upgrades. With all of the additions on the site since the original construction, there is limited space available to build new/replacement facilities.

Potential New Groundwater Treatment Plant

A large groundwater aquifer is located under the south half of Evansville extending to the Ohio River. Information available from the Indiana Department of Natural Resources indicates this aquifer could produce more than enough raw water to replace Evansville's current surface water supply. Groundwater has many advantages over surface water, including consistent temperature and quality. The groundwater supply would be pumped from vertical collector wells located south of the existing facility through raw water piping to the new treatment plant located in the area of the existing city street maintenance garage.

Groundwater treatment would consist of chemical oxidation of iron and manganese, filtration, and disinfection. The treated water would then be stored in a new clearwell and the existing 6.5 million gallon clearwell before being pumped into the distribution system.

A new groundwater treatment facility would require significantly less chemicals for flocculation and treatment resulting in a large reduction in sludge production. The quality and temperature produced by the facility would be more consistent and the raw water source is much less susceptible to contamination from spills and algae blooms.

Convert Existing Plant from Surface Water to Groundwater

In addition to maintaining the existing plant or constructing a new groundwater plant, a third option is to convert the existing plant from surface water to groundwater. The raw water source for this conversion would be the same as option 2 with the raw water main entering the site on the south side of the existing facility.

For this option, much of the existing facility would be abandoned including the north and south flocculation and sedimentation processes and two thirds of the existing filters. The newest of the filters would remain and would be rebuilt with new low-profile under drains and new media. The treatment process would be similar to option 2 with chemical oxidation followed by filtration, disinfection, storage, and pumping.

Summary

Maintaining the existing facilities utilizing the same raw water source and treatment process presents many obstacles and costs including potential source contamination, high chemical costs, and infrastructure that is mostly beyond its useful life.

Construction of a new plant to treat groundwater would produce a high quality consistent product with significantly lower costs but would require a large upfront capital expenditure.

Conversion of the existing plant to groundwater will also produce a high quality consistent product with a lower up front capital cost and should be the option that is further evaluated. The first step in the evaluation is to complete aquifer testing to confirm the quantity and quality of groundwater.

APPLICATION FORM

Drinking Water State Revolving Fund Loan Program (DWSRF)

Environmental Programs

Brownfields

Return completed form to:
DWSRF Administrator
100 North Senate Avenue, Rm. 1275
Indianapolis, IN 46204

RECEIVED
APR 25 2018
INDIANA FINANCE AUTHORITY
ENVIRONMENTAL PROGRAMS

I. APPLICANT and SYSTEM INFORMATION:

1. Applicant Name (community or water system name): City of Evansville Water and Sewer Utility

2. Public Water Supply ID #: IN5282002

3. Type of Applicant (check one):
   - X Municipality (City, Town, County, Township)
   - ☐ Regional Water District
   - ☐ Non-profit Water Corporation
   - ☐ For-profit Utility
   - ☐ School
   - ☐ Other _____

4. Location of the Proposed Project: USGS Quadrangle Map Name(s), Township(s), Range(s), Section(s): Varies

   City / Town: Evansville County(ies): Vanderburgh Civil Township(s): Center, Pigeon, Union, Perry, Knight, German, Scott

5. State Representative District: 75, 76, 77, 78 State Senate District: 49 & 50 Congressional District: IN-8

6. Population Served (available from the U.S. Census): 117,429

7. Population Trend (U.S. Census): Growing when Compared to 2010

8. Unemployment Data(Bureau of Labor Statistics http://data.bls.gov/pdq/querytool.jsp?survey=la): 3.6%

9. Median Household Income for Service Area: $35,786

10. Number of Connections: (current) Approximately 60,000 (post project) Same

11. Current User Rate/4,000 gal.: 18.97 (2016 – First Year of Increase) Estimated Post-Project Rate/4,000 gal.: $27.86 (2018 – Last Year of Increase)

12. Is the utility regulated by the Indiana Utility Regulatory Commission (IURC)? (Yes/No) Yes

13. Applicant's Data Universal Numbering System (DUNS) number[1]: 78-4782641

II. CAPACITY DEVELOPMENT:

Pursuant to the Safe Drinking Water Act, a DWSRF Loan Program Participant must certify that the Participant possesses the technical, managerial, and financial capacity to operate the water system or that the DWSRF Loan Program assistance will ensure compliance with the Safe Drinking Water Act (40 CFR 35.3520(d)(2)).

1. Does your system currently possess technical, managerial and financial capacity? (Yes/No) Yes

2. If no, will technical, managerial and financial capacity be achieved after the implementation of the water system's DWSRF project? (Yes/No) N/A

To assess the technical, managerial, and financial capacity of the water system, the Participant is encouraged to complete the "Indiana Department of the Environmental Management (IDEM) Capacity Development Self-Assessment", available at **www.srf.in.gov** .

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[1] *SRF Participants must register with the Central Contractor Registry (CCR) which requires the Participant to have a DUNS number. For more information about how to register with the CCR and obtain a DUNS number, see www.srf.in.gov .*

III. CONTACT INFORMATION:

Authorized Signatory (an official of the water system that is authorized to contractually obligate the applicant with respect to the proposed project):

Name: Michael D. Labitzke
Title: Deputy Director of Utilities – Program Management Office
Telephone # (include area code): (812) - 421-2120 Ex. 2228
Address: 1931 Allens Ln.
City, State, Zip Code Evansville, IN 47720
E-mail: mlabitzke@umbaugh.com

Applicant Staff Contact (person to be contacted directly for information if different from authorized signatory):

Name: Michael D. Labitzke
Title: Deputy Director of Utilities - Program Management Office
Telephone # (include area code): (812) - 421-2120 Ex. 2228
Address: 1931 Allens Ln.
City, State, Zip Code Evansville, IN 47720
E-mail: mlabitzke@umbaugh.com

Certified Operator:

Name: Rick Glover
Telephone # (include area code): 812-428-0568
E-mail: rglover@ewsu.com

Grant Administrator (if applicable)

Contact: _____
Firm: _____
Address: _____
City, State, Zip Code _____
Telephone # (include area code): _____
Fax: _____
E-mail Address: _____

Consulting Engineer

Contact: Nicholas R. Jahn
Firm: VS Engineering, Inc.
Address: 203 Main St., Suite 102
City, State, Zip Code Evansville, IN 47708
Telephone # (include area code): (812) 401-0303
Fax: N/A
E-mail Address: nrjahn@vsengineering.com

Bond Counsel

Contact: Thomas A. Pitman
Firm: Barnes & Thornburg LLP
Address: 11 South Meridian Street
City, State, Zip Code Indianapolis, IN 46204-3535
Telephone # (include area code): (317) 231-6420
Fax: (317) 231-7433
E-mail: thomas.pitman@BTLaw.com

Financial Advisor

Contact: Douglas L. Baldessari
Firm: Umbaugh
Address: 8365 Keystone Crossing Suite 300
City, State, Zip Code Indianapolis, IN 46240-2687
Telephone # (include area code): (317) 465-1500
Fax: (317) 465-1550
E-mail Address: baldessari@umbaugh.com

Local Counsel

Contact: Marco L. DeLucio
Firm: Ziemer, Stayman, Weitzeland Shoulders
Address: 20 N.W. First Street, 9th Floor
City, State, Zip Code Evansville, Indiana 47706
Telephone # (include area code): (812) 424-7575
Fax: (812) 421-5089
E-mail: MDeLucio@zsws.com

IV. PROJECT INFORMATION:

1. **Project Name:** Refresh Evansville – Preliminary Engineering Report "A"

2. **Project Need** - Describe the facility needs in terms of age, condition, date of most recent rehabilitation/replacement, and public health or Safe Drinking Water Act compliance issues or violations:

The Evansville Water and Sewer Utility (EWSU) distribution system serves an area of approximately 160 square miles and consists of over file million lineal feet of water mains, six elevated storage tanks, two ground storage reservoirs and seven booster stations. The water distribution mains vary in age and material with the vast majority being constructed prior to 1970 and over 60% consisting of cast iron. EWSU has continued to experience a high frequency of water main breaks in its system, specifically in areas where the mains were constructed prior to 1970 and of cast iron.

As such EWSU developed the Refresh Evansville Program which is a long-term strategy to replace the City's aging water mains and supporting infrastructure. The Refresh Evansville Program Management (PM) team completed a condition assessment of all existing mains and evaluated each main based upon rate of failure, pipe age, operating pressure, pipe material, pipe size, location and consequence of failure. Utilizing the condition assessment, the PM team then developed a prioritized list of projects based on the aforementioned needs and the recommended year (or years) of construction. The results of this analysis are summarized in the Evansville Water and Sewer Utility's Drinking Water Master Plan. A full copy of this document is available upon request. Below are key exhibits from the Master Plan further detailing Project Needs:

TABLE 2.1
Length of Water Main by Material

Water Main Material	*Total Length (feet)*	*Percent of Total (%)*
Cast Iron	2,429,643	45.6
Polyvinyl Chloride	1,791,692	33.2
Ductile Iron	764,326	14.2
Asbestos Concrete	90,267	1.7
Concrete	64,761	1.2
Steel	47,766	0.9
Galvanized Steel	19,562	0.4
Polyethylene	18,358	0.3
Copper	2,682	0.05
Unknown	130,114	2.4

TABLE 2.2
Length and Percentage of Main by Installation Date

Mains Installed Prior To	*Total Length (feet)*	*Percent of Total (%)*	*Cumulative Percentage (%)*
1930	830,777	15.4	15.4
1940	992,138	3.0	18.4
1950	1,423,224	8.0	26.4
1960	2,030,424	11.3	37.7
1970	2,765,005	13.6	51.3
1980	3,087,299	6.0	57.3
1990	3,281,073	3.6	60.9
2000	3,354,734	1.4	62.2
2010	3,468,479	2.1	64.4
2015	3,472,901	0.08	64.4
Unknown	1,916,272	35.6	100

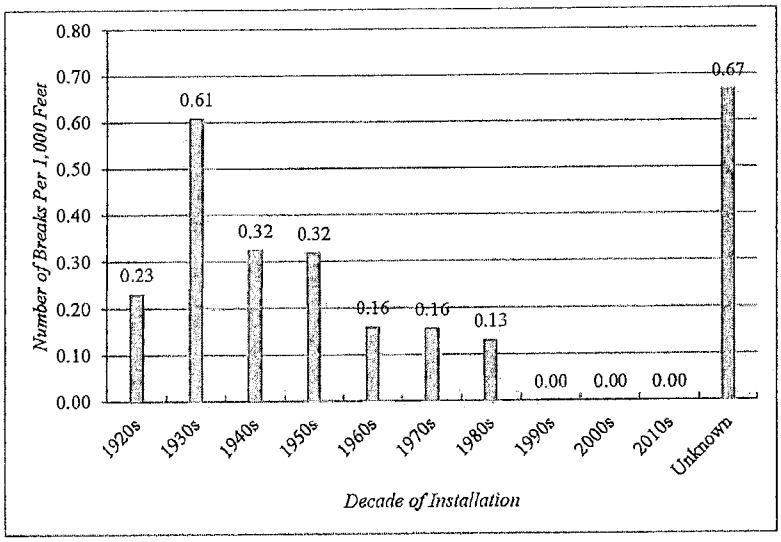

FIGURE 2-2
Main Breaks per 1,000 Feet of Cast Iron Main by Decade Installed

Refresh Evansville PER "A" seeks funding for various system wide projects to be constructed in years 2019 thru 2022. A summary table identifying all proposed projects, project costs, ranking and project needs have been attached to this document.

3. **Proposed Project** - Describe the scope of the proposed project and how it will address the applicant's needs as enumerated above. Please provide a map showing proposed work areas, if possible. Note: Projects that are solely for fire suppression or economic development are not eligible for funding under the Safe Drinking Water Act.

   Each proposed project is identified in the attached summary table. The need that each project is addressing, along with proposed project costs and the ranking as determined through EWSU's master planning initiative is also included. An exhibit identifying the proposed work areas is also attached.

   Will any part of the proposed project be constructed on previously undisturbed land[2]? (Yes/No) No

   If no, would it be accurate to describe the entire project as rehabilitation of existing system components? (Yes/No) Yes If no, why not?

   Does the utility have a back-up power source? (Yes/No) Yes

   Will the proposed project incorporate Green Project Components? (Yes/No) No
   If yes, complete a SRF Green Project Reserve Checklist. Checklist and more information can be found at **www.srf.in.gov**.

[2] *The Division of Historic Preservation and Archaeology's definition of "undisturbed land" is "any land, including agricultural land (row-crop farmland, orchards, pasture, fallow farmland, or land that was previously farmland but is now grass or other vegetation), that has not been substantially disturbed by recent soil disturbing activities."*

4. **Project Cost Estimate:**

Source (intake or wells)	$_____
Treatment	$_____
Storage	$_____
Distribution/Transmission	$148,881,800.00
Other: _____	$_____
TOTAL CONSTRUCTION:	$_____
Non-construction Costs	$148,881,800.00
TOTAL ESTIMATED PROJECT COST:	$148,881,800.00

Other Funding Sources:

	Application Round (date)	**Amount Requested** (dollars)	**Amount Awarded** (if applicable)
Office of Community and Rural Affairs Community Focus Fund			
U.S. Dept. of Commerce Economic Development Administration			
U.S. Dept. of Agriculture Rural Development			
Local Funds			
Other			

5. **Will this project proceed if other funding sources are not in place?** (Yes/No) Yes

6. **Anticipated SRF Loan Amount (after other funding):** $148,881,800.00

7. **Anticipated Dates:**

Preliminary Engineering Report (PER) submittal: June 15, 2018

Contract Award: Varies

Construction Start: Varies

Construction Complete: Varies

V. SIGNATURE:

I certify that I am legally authorized by the legislative body to sign this application. To the best of my knowledge and belief, the foregoing information is true and correct.

Michael D Labitzke

Signature of Authorized Signatory (Community Official)

Michael D. Labitzke, P.E.
Printed or Typed Name

Deputy Director Utilities, Program Management Office
Title of Authorized Signatory

April 24, 2018

Date

REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"
SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Costs - 2017 Dollars		Construction Year	Project Length (lft)	Average Ranking	Project Need
	Project Name	Construction				
1	Neighborhood of Covert, Vann, Graham, and Hawthorne	$3,007,000.00	2021	9700	32.5	Breaks, Age, Material
2	Covert Ave - Phase II and Wedge Ave	$1,209,000.00	2021	3900	90.5	Age
3	Presidents Neighborhood	$7,321,000.00	2019	20400	N/A	Current project
4	Sweetser Rotherwood Area	$4,567,000.00	2019	15800	N/A	Current project
5	Division St. - Vann to Stockwell	$1,209,000.00	2021	3900	90.5	Age
6	Washington and Second - Relocation	$1,385,000.00	2019	2300	N/A	Current project
7	Hogue Rd., New Harmony Road and Harmony Way	$6,447,000.00	2019	20500	N/A	Current project
8	Claremont, Bosse, and Craig Aves	$2,263,000.00	2020	7300	26	Age, Pressure, Material
9	Peerless Road, Upper Mt Vernon to Moya	$1,550,000.00	2021	5000	29	Location, Consequence of Failure
10	Speaker Rd, James Ave, Nolan Ave	$899,000.00	2021	2900	46.5	Age, Pressure
11	Upper Mt Vernon - Phase I, Red Bank Road, and New Harmony Road	$5,146,000.00	2020	16600	10	Age, Pressure, Material
12	Maryland Ave, Harmony to Wessel	$1,178,000.00	2021	3800	48.5	Age
13	Allens Ln - Phase I	$837,000.00	2020	2700	2.5	Road, Age, Material, Pressure
14	Grove Street, South of Allens Lane	$806,000.00	2020	2600	4	Road, Age, Material, Location
15	Charlotte and Russel Sts	$1,085,000.00	2021	3500	28	Breaks, Age, Pressure
16	Stanley Ave, Governor to dead end east of Kerth	$1,186,000.00	2020	5200	N/A	Current project
17	Kansas Road, St. Petersburg to I-69 - Relocation	$2,585,000.00	2019	6500	N/A	INDOT Relocation
18	US 41 and Lynch Rd	$4,154,000.00	2020	13400	17	Road, Breaks, Age, Material, Location
19	Schmitt, Whetstone & Bexley	$998,200.00	2020	3220	17.5	Age, Material
20	Senate Ave, Petersburg to Kentucky & St George	$3,038,000.00	2021	9800	34.5	Age, Size
21	First Ave, Pigeon Creek to Booster Station	$2,374,600.00	2021	7660	38.5	Breaks, Age, Size, Location, Booster Station Demand
22	Morgan Ave, Fares to Garvin	$1,271,000.00	2021	4100	32	Breaks, Age, Location
23	Columbia - Phase I, Fares, Columbia to Morgan	$2,914,000.00	2021	9400	95.5	Breaks, Age, Location
24	Fendrich Neighborhood	$2,077,000.00	2020	6700	N/A	Current project
25	Vann Ave, Graham to Covert	$2,108,000.00	2022	6800	109	Age, Material

REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"
SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Costs - 2017 Dollars		Construction Year	Project Length (lft)	Average Ranking	Project Need
	Project Name	Construction				
26	Morton and Elliot	$1,643,000.00	2022	5300	75	Age, Location
27	Broadway, Phase II & II, Schutte Road, Broadway to USI Tank	$8,215,000.00	2022	26500	77	Age, Location
28	Lloyd Expressway, Wabash to Tekoppel	$3,689,000.00	2022	11900	50	Road, Breaks, Age, Pressure, Size, Location
29	Maryland Ave and Buchanan Road	$3,410,000.00	2022	11000	66.5	Age, Location
30	Mount Vernon Rd, Upper Mt Vernon to Michigan	$3,565,000.00	2022	11500	81	Age
31	9th Ave, Franklin St, and Michigan St	$3,596,000.00	2022	11600	55	Road, Age, Size, Location
32	Franklin Ave and Illinois east of Pigeon Creek	$961,000.00	2022	3100	53.5	Age, Location
33	Mesker Park - Phase I & II	$3,503,000.00	2021	11300	46.5	Road, Age, Pressure, Location
34	Neighborhood of Buena Vista, 1st, and Pigeon Creek	$7,936,000.00	2022	25600	13.5	Breaks, Age, Material
35	First Ave, Booster to Reservoir, Campground Road to Petersburg	$5,983,000.00	2022	19300	49.5	Age, Pressure, Material, Size
36	St George - Phase II	$3,441,000.00	2022	11100	52	Road, Age, Size, Location
37	Petersburg Rd and US 41	$7,099,000.00	2022	22900	88	Road, Pressure, Size, Location
38	Neighborhood of Crossgate, Fulton, Mill, and Kratzville	$1,705,000.00	2022	5500	94.5	Age, Pressure
39	Residential area on Idlewild and Allens west of 1st Ave	$2,790,000.00	2022	9000	64	Breaks, Age, Pressure
40	Martins Lane, Burkhardt to Newburgh	$2,635,000.00	2022	8500	100	Age
41	Division Street & Canal	$1,705,000.00	2022	5500	45	Road, Age, Size, Location
42	Residential/Commercial area bound by Stringtown, US 41, Diamond, and Morgan	$5,549,000.00	2022	17900	49	Road, Breaks, Age, Material, Location
43	E Morgan Ave and Old Boonville Hwy	$2,759,000.00	2022	8900	50.5	Road, Age, Location
44	Stockwell Road, Indiana to Morgan	$1,395,000.00	2022	4500	61	Age, Location
45	Virginia Ave and Oak Hill Rd east of US 41	$2,077,000.00	2022	6700	61	Road, Age, Size, Location
46	Downtown area on 1st Ave and 2nd Ave	$3,875,000.00	2022	12500	87	Age
47	Washington Ave - Phase I & II	$3,906,000.00	2022	12600	58	Road, Breaks, Age, Location
48	HSPS 4, Clearwell and Transmission Mains	$4,250,000.00	2019	8500	100	Effluent Pump Station, Age, Size
49	Lincoln Booster Station	$1,580,000.00	2020	6800	109	Age, Material
	Totals	$148,881,800.00		471,680		

refresh EVANSVILLE

HNTB

WATER MAIN PROJECTS

Proposed 2019-2021 Water Main Replacement Projects - Current REFRESH Projects plus Highest Ranked Master Plan Projects

Average of Ranks used to determine project priority

Water Main Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Design Costs (2017 Dollars)	Estimated Program Management Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Total LF	High Scoring Main	Average Score for Project	Rank By High Scoring Main	Rank by Average Score	Average of Ranks	High Score Explanation
President's Neighborhood Central	$3,174,000		$95,200	$304,700	$3,573,900	HNTB Estimate	2019	$3,905,300	9,300	231	194				Current project
President's Neighborhood West	$2,980,000		$89,400	$286,100	$3,355,500	HNTB Estimate	2019	$3,666,600	7,700	212	185				Current project
President's Neighborhood East	$1,167,000		$35,000	$112,000	$1,314,000	HNTB Estimate	2019	$1,435,800	3,400	207	180				Current project
Eichel, US 41 to Fares	$392,000		$11,800	$37,600	$441,400	HNTB Estimate	2019	$482,300	1,100	226	200				Current project
Walcott, West of Van Ness	$201,000		$6,000	$19,300	$226,300	HNTB Estimate	2019	$247,300	500	199	177				Current project
Washington and Second - Relocation	$1,385,000		$41,600	$133,000	$1,559,600	HNTB Estimate	2019	$1,704,200	2,300	194	190				Current project
Hogue Road, Red Bank to Williams	$1,944,000		$58,300	$186,600	$2,188,900	HNTB Estimate	2019	$2,391,900	8,500	202	176				Current project
New Harmony Road, Allens Lane to Harmony Way	$863,000		$25,900	$82,800	$971,700	HNTB Estimate	2019	$1,061,800	2,400	216	216				Current project
Harmony Way, Franklin Heights Neighborhood	$3,640,000		$109,200	$349,400	$4,098,600	HNTB Estimate	2019	$4,478,700	9,600	226	195				Current project
Sweetser Rotherwood Area	$4,567,000		$137,000	$438,400	$5,142,400	HNTB Estimate	2019	$5,619,200	15,800	201	186				Current project
Kansas Road, St. Petersburg to I-69 - Relocation	$2,585,000	$258,500	$77,600	$248,200	$3,169,300	HNTB Estimate	2019	$3,463,200	6,500	N/A	N/A				INDOT Relocation
Waterworks Road - (4) 30" Water Main Relocations	$4,250,000	$425,000	$127,500	$408,000	$5,210,500	HNTB Estimate	2019	$5,693,700	5,000	195	193	176	58	117	Effluent Pump Station, Age, Size
Road Project Relocations (unknown)	$2,455,200	$245,520	$73,700	$235,700	$3,010,120	HNTB Estimate	2019	$3,289,200	7,920	N/A	N/A				Road Project Relocations
Bartels Lane, Evergreen Road South	$580,000	$58,000	$17,400	$55,700	$711,100	HNTB Estimate	2020	$800,300	2,400	201	168				Current project
Ingle Ave, Forest to Marion	$346,000	$34,600	$10,400	$33,200	$424,200	HNTB Estimate	2020	$477,400	1,100	197	173				Current project
Fendrich Neighborhood	$2,077,000	$207,700	$62,300	$199,400	$2,546,400	HNTB Estimate	2020	$2,866,000	6,700	254	192				Current project
Stanley Ave, Governor to dead end east of Kerth	$1,186,000	$118,600	$35,600	$113,900	$1,454,100	HNTB Estimate	2020	$1,636,600	5,200	202	167				Current project
Kerth Avenue, St. George to Christ	$427,800	$42,780	$12,800	$41,100	$524,480	HNTB Estimate	2020	$590,300	1,380	254	201				Current project
Christ Rd - Extension Kerth to Fares	$100,000	$10,000	$3,000	$9,600	$122,600	HNTB Estimate	2020	$138,000	340	N/A	N/A				Current project
Allens Ln - Phase I	$837,000	$83,700	$25,100	$80,400	$1,026,200	HNTB Estimate	2020	$1,155,000	2,700	252	234	3	2	2.5	Road, Age, Material, Pressure
Grove Street, South of Allens Lane	$806,000	$80,600	$24,200	$77,400	$988,200	HNTB Estimate	2020	$1,112,200	2,600	236	236	7	1	4	Road, Age, Material, Location
Rosewood Drive, Weaver to Hermann and Karch Drive east of Hermann	$291,400	$29,140	$8,700	$28,000	$357,240	HNTB Estimate	2020	$402,100	940	244	214	5	12	8.5	Age, Material
Gayne Street, West of Van Ness	$434,000	$43,400	$13,000	$41,700	$532,100	HNTB Estimate	2020	$598,900	1,400	232	226	16	3	9.5	Age, Pressure, Material
Upper Mt Vernon - Phase I, Red Bank Road, and New Harmony Road	$5,146,000	$514,600	$154,400	$494,000	$6,309,000	HNTB Estimate	2020	$7,100,800	16,600	232	220	13	7	10	Age, Pressure, Material
Tupman Road, north of Upper Mt Vernon	$620,000	$62,000	$18,600	$59,500	$760,100	HNTB Estimate	2020	$855,500	2,000	231	215	17	10	13.5	Age, Pressure, Material
Road Project Relocations (unknown)	$2,455,200	$245,520	$73,700	$235,700	$3,010,120	HNTB Estimate	2020	$3,387,900	7,920	N/A	N/A				Road Project Relocations
Bellaire Road, Oak Hill to Weinbach	$260,400	$26,040	$7,800	$25,000	$319,240	HNTB Estimate	2020	$359,300	840	227	223	25	6	15.5	Age, Material
US 41 and Lynch Rd	$4,154,000	$415,400	$124,600	$398,800	$5,092,800	HNTB Estimate	2020	$5,732,000	13,400	254	201	2	32	17	Road, Breaks, Age, Material, Location
Schmitt Lane, east of Oak Hill	$372,000	$37,200	$11,200	$35,700	$456,100	HNTB Estimate	2020	$513,300	1,200	226	226	26	4	15	Age, Material
Whetstone Road, west of Oak Hill	$192,200	$19,220	$5,800	$18,500	$235,720	HNTB Estimate	2020	$265,300	620	226	225	30	5	17.5	Age, Material
Bexley Road, east of Oak Hill	$434,000	$43,400	$13,000	$41,700	$532,100	HNTB Estimate	2020	$598,900	1,400	224	213	32	13	22.5	Age, Pressure
New York Ave, Bayse to Riverside	$651,000	$65,100	$19,500	$62,500	$798,100	HNTB Estimate	2020	$898,300	2,100	222	219	40	8	24	Age, Material
Claremont, Bosse, and Craig Aves	$2,263,000	$226,300	$67,900	$217,200	$2,774,400	HNTB Estimate	2020	$3,122,600	7,300	226	205	28	24	26	Age, Pressure, Material
Charlotte and Russel Sts	$1,085,000	$108,500	$32,600	$104,200	$1,330,300	HNTB Estimate	2021	$1,542,200	3,500	226	202	29	27	28	Breaks, Age, Pressure
Peerless Road, Upper Mt Vernon to Moya	$1,550,000	$155,000	$46,500	$148,800	$1,900,300	HNTB Estimate	2021	$2,203,000	5,000	219	209	43	15	29	Location, Consequence of Failure
Morgan Ave, Fares to Garvin	$1,271,000	$127,100	$38,100	$122,000	$1,558,200	HNTB Estimate	2021	$1,806,400	4,100	223	201	34	30	32	Breaks, Age, Location
Neighborhood of Covert, Vann, Graham, and Hawthorne	$3,007,000	$300,700	$90,200	$288,700	$3,686,600	HNTB Estimate	2021	$4,273,800	9,700	236	195	8	57	32.5	Breaks, Age, Material
Senate Ave, Petersburg to Kentucky & St George	$3,038,000	$303,800	$91,100	$291,600	$3,724,500	HNTB Estimate	2021	$4,317,700	9,800	219	203	44	25	34.5	Age, Size
First Ave, Pigeon Creek to Booster Station	$2,374,600	$237,460	$71,200	$228,000	$2,911,260	HNTB Estimate	2021	$3,374,900	7,660	235	193	9	68	38.5	Breaks, Age, Size, Location, Booster Station
Lakeview Blvd, Harmony to Golfmoor	$558,000	$55,800	$16,700	$53,600	$684,100	HNTB Estimate	2020	$770,000	1,800	216	206	63	21	42	Age
Mesker Park - Phase I	$1,085,000	$108,500	$32,600	$104,200	$1,330,300	HNTB Estimate	2021	$1,542,200	3,500	226	194	31	61	46.5	Road, Age, Pressure
Speaker Rd, James Ave, Nolan Ave	$899,000	$89,900	$27,000	$86,300	$1,102,200	HNTB Estimate	2021	$1,277,800	2,900	212	205	71	22	46.5	Age, Pressure
Maryland Ave, Harmony to Wessel	$1,178,000	$117,800	$35,300	$113,100	$1,444,200	HNTB Estimate	2021	$1,674,200	3,800	217	200	62	35	48.5	Age
Covert Ave - Phase II and Wedge Ave	$1,209,000	$120,900	$36,300	$116,100	$1,482,300	HNTB Estimate	2021	$1,718,400	3,900	207	194	115	66	90.5	Age
Columbia - Phase I, Fares, Columbia to Morgan	$2,914,000	$291,400	$87,400	$279,700	$3,572,500	HNTB Estimate	2021	$4,141,500	9,400	207	191	106	85	95.5	Breaks, Age, Location
Schutte Road, Broadway to USI Tank	$1,643,000	$164,300	$49,300	$157,700	$2,014,300	HNTB Estimate	2021	$2,335,100	5,300	197	189	170	98	134	Secondary Feed to USI Tank
Evans Street & Louisiana	$434,000	$43,400	$13,000	$41,700	$532,100	HNTB Estimate	2021	$616,800	1,400	228	218	21	9	15	Age, Material
Road Project Relocations (unknown)	$2,455,200	$245,520	$73,700	$235,700	$3,010,120	HNTB Estimate	2021	$3,489,600	7,920	N/A	N/A				Road Project Relocations
Total of Projects	**$77,937,000**	**$5,762,400**	**$2,338,100**	**$7,482,000**	**$93,519,500**			**$105,133,500**	**237,840**						

Non-construction costs assumed to be the following:

- 10% Design Costs; No Design Costs for Projects designed in 2017 / 2018
- 3% Program Management Costs
- 9.6% Construction Engineer / Resident Project Representative Costs

Year	Total Cost	Total Lineal Feet	Total Miles
2019	$37,439,200	80,020	15.2
2020	$33,380,700	79,940	15.1
2021	$34,313,600	77,880	14.8
TOTAL	$105,133,500	237,840	45.0

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ADDITIONAL DISTRIBUTION SYSTEM PROJECTS FOR CONSIDERATION

Additional Water Main Projects for Consideration - Next Highest Ranked Master Plan Projects
Highest Scoring Main >= 200 plus Average Score of Main >= 190

Average of Ranks used to determine project priority

Water Main Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Design Costs (2017 Dollars)	Estimated Program Management Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Total LF	High Scoring Main	Average Score for Project	Rank By High Scoring Main	Rank by Average Score	Average of Ranks	High Score Explanation
(Potential) Covert Avenue - Relocation for Road Diet							2022								INDOT Relocation
Neighborhood of Buena Vista, 1st, and Pigeon Creek	$7,936,000	$793,600	$238,080	$761,856	$9,729,536	HNTB Estimate	2022	$11,617,600	25,600	262	203	1	26	13.5	Breaks, Age, Material
Division Street & Canal	$1,705,000	$170,500	$51,150	$163,680	$2,090,330	HNTB Estimate	2022	$2,496,000	5,500	220	197	41	49	45	Road, Age, Size, Location
Residential/Commercial area bound by Stringtown, US 41, Diamond, and Morgan	$5,549,000	$554,900	$166,470	$532,704	$6,803,074	HNTB Estimate	2022	$8,123,200	17,900	242	190	6	92	49	Road, Breaks, Age, Material, Location
First Ave, Booster to Reservoir, Campground Road to Petersburg	$5,983,000	$598,300	$179,490	$574,368	$7,335,158	HNTB Estimate	2022	$8,758,600	19,300	223	194	35	64	49.5	Age, Pressure, Material, Size
Lloyd Expressway, Wabash to Tekoppel	$3,689,000	$368,900	$110,670	$354,144	$4,522,714	HNTB Estimate	2022	$5,400,400	11,900	232	191	14	86	50	Road, Breaks, Age, Pressure, Size, Location
E Morgan Ave and Old Boonville Hwy	$2,759,000	$275,900	$82,770	$264,864	$3,382,534	HNTB Estimate	2022	$4,038,900	8,900	218	196	47	54	50.5	Road, Age, Location
St George - Phase II	$3,441,000	$344,100	$103,230	$330,336	$4,218,666	HNTB Estimate	2022	$5,037,300	11,100	220	194	42	62	52	Road, Age, Size, Location
Green River - Phase I, Lloyd to Lincoln	$682,000	$68,200	$20,460	$65,472	$836,132	HNTB Estimate	2022	$998,400	2,200	209	209	88	16	52	Age
Division St, Vann to Stockwell	$465,000	$46,500	$13,950	$44,640	$570,090	HNTB Estimate	2022	$680,700	1,500	209	209	91	14	52.5	Road, Age, Location
Franklin Ave and Illinois east of Pigeon Creek	$961,000	$96,100	$28,830	$92,256	$1,178,186	HNTB Estimate	2022	$1,406,800	3,100	209	207	89	18	53.5	Age, Location
9th Ave, Franklin St, and Michigan St	$3,596,000	$359,600	$107,880	$345,216	$4,408,696	HNTB Estimate	2022	$5,264,200	11,600	210	201	81	29	55	Road, Age, Size, Location
Ohio Street, West of Pigeon Creek to St Joseph	$1,178,000	$117,800	$35,340	$113,088	$1,444,228	HNTB Estimate	2022	$1,724,500	3,800	208	206	94	19	56.5	Age, Location
Washington Ave - Phase I	$1,736,000	$173,600	$52,080	$166,656	$2,128,336	HNTB Estimate	2022	$2,541,300	5,600	213	198	69	47	58	Road, Age, Location
Washington Ave - Phase II	$2,170,000	$217,000	$65,100	$208,320	$2,660,420	HNTB Estimate	2022	$3,176,700	7,000	218	193	46	72	59	Breaks, Age
Illinois Street, Governor to Morton	$403,000	$40,300	$12,090	$38,688	$494,078	HNTB Estimate	2022	$590,000	1,300	208	208	102	17	59.5	Age, Location
Stockwell Road, Indiana to Morgan	$1,395,000	$139,500	$41,850	$133,920	$1,710,270	HNTB Estimate	2022	$2,042,200	4,500	208	205	99	23	61	Age, Location
Virginia Ave and Oak Hill Rd east of US 41	$2,077,000	$207,700	$62,310	$199,392	$2,546,402	HNTB Estimate	2022	$3,040,500	6,700	210	199	82	40	61	Road, Age, Size, Location
Residential area on Idlewild and Allens west of 1st Ave	$2,790,000	$279,000	$83,700	$267,840	$3,420,540	HNTB Estimate	2022	$4,084,300	9,000	211	198	80	48	64	Breaks, Age, Pressure
Rollett Lane, south of Broadway	$465,000	$46,500	$13,950	$44,640	$570,090	HNTB Estimate	2022	$680,700	1,500	210	198	87	42	64.5	Age, Pressure
Grove St and Florida St	$651,000	$65,100	$19,530	$62,496	$798,126	HNTB Estimate	2022	$953,000	2,100	208	200	97	34	65.5	Age, Location
Maryland Ave and Buchanan Road	$3,410,000	$341,000	$102,300	$327,360	$4,180,660	HNTB Estimate	2022	$4,991,900	11,000	208	199	96	37	66.5	Age, Location
Big Cynthiana - Phase I	$1,023,000	$102,300	$30,690	$98,208	$1,254,198	HNTB Estimate	2022	$1,497,600	3,300	206	206	116	20	68	Age, Material
SR57 north of Kansas Rd	$527,000	$52,700	$15,810	$50,592	$646,102	HNTB Estimate	2022	$771,500	1,700	208	199	103	39	71	Pressure, Location
Park St, Florida to Shanklin	$434,000	$43,400	$13,020	$41,664	$532,084	HNTB Estimate	2022	$635,300	1,400	207	199	105	38	71.5	Age, Location
Mill - Phase I	$1,209,000	$120,900	$36,270	$116,064	$1,482,234	HNTB Estimate	2022	$1,769,900	3,900	210	195	85	59	72	Age
Morton Ave and Franklin St	$868,000	$86,800	$26,040	$83,328	$1,064,168	HNTB Estimate	2022	$1,270,700	2,800	207	198	104	46	75	Age, Location
Elliot and Morton Ave	$775,000	$77,500	$23,250	$74,400	$950,150	HNTB Estimate	2022	$1,134,500	2,500	216	190	64	87	75.5	Age
Broadway Ave - Phase II	$2,604,000	$260,400	$78,120	$249,984	$3,192,504	HNTB Estimate	2022	$3,812,000	8,400	208	195	95	59	77	Age, Location
Mount Vernon Rd, Upper Mt Vernon to Michigan	$3,565,000	$356,500	$106,950	$342,240	$4,370,690	HNTB Estimate	2022	$5,218,800	11,500	211	192	79	83	81	Age
Harmony - Phase II	$806,000	$80,600	$24,180	$77,376	$988,156	HNTB Estimate	2022	$1,179,900	2,600	206	198	121	41	81	Age
St Joseph, Wyoming to Glenview	$961,000	$96,100	$28,830	$92,256	$1,178,186	HNTB Estimate	2022	$1,406,800	3,100	206	198	119	43	81	Age
Broadway Ave - Phase III	$3,968,000	$396,800	$119,040	$380,928	$4,864,768	HNTB Estimate	2022	$5,808,800	12,800	210	191	84	84	84	Age, Pressure
Wills Rd, Virginia to Michigan	$93,000	$9,300	$2,790	$8,928	$114,018	HNTB Estimate	2022	$136,100	300	202	202	140	28	84	Age
Downtown area on 1st Ave and 2nd Ave	$3,875,000	$387,500	$116,250	$372,000	$4,750,750	HNTB Estimate	2022	$5,672,600	12,500	207	193	107	67	87	Age
Petersburg Rd and US 41	$7,099,000	$709,900	$212,970	$681,504	$8,703,374	HNTB Estimate	2022	$10,392,300	22,900	208	192	101	75	88	Road, Pressure, Size, Location
Willemette Rd, south of Diamond	$43,400	$4,340	$1,302	$4,166	$53,208	HNTB Estimate	2022	$63,500	140	201	201	151	31	91	Road, Location
Cross Pointe Blvd, Indiana to Eagle Creek	$288,300	$28,830	$8,649	$27,677	$353,456	HNTB Estimate	2022	$422,000	930	201	201	152	33	92.5	Road, Location, Consequence of Failure
Mesker Park - Phase II	$2,418,000	$241,800	$72,540	$232,128	$2,964,468	HNTB Estimate	2022	$3,539,700	7,800	202	197	132	53	92.5	Road, Age, Pressure, Location
Neighborhood of Crossgate, Fulton, Mill, and Kratzville	$1,705,000	$170,500	$51,150	$163,680	$2,090,330	HNTB Estimate	2022	$2,496,000	5,500	202	196	133	56	94.5	Age, Pressure
Main St, Wedeking to Richardt	$105,400	$10,540	$3,162	$10,118	$129,220	HNTB Estimate	2022	$154,300	340	201	198	149	44	96.5	Age, Material
Cass and Ridgway	$403,000	$40,300	$12,090	$38,688	$494,078	HNTB Estimate	2022	$590,000	1,300	206	192	122	73	97.5	Age
Martins Lane, Burkhardt to Newburgh	$2,635,000	$263,500	$79,050	$252,960	$3,230,510	HNTB Estimate	2022	$3,857,400	8,500	207	190	112	88	100	Age
Vann Ave, Graham to Covert	$2,108,000	$210,800	$63,240	$202,368	$2,584,408	HNTB Estimate	2022	$3,085,900	6,800	202	192	142	76	109	Age, Material
Total of Projects	**$90,554,100**	**$9,055,410**	**$2,716,623**	**$8,693,194**	**$111,019,327**			**$132,562,800**	**292,110**						
									55	miles					

Booster Station Master Plan Projects

Booster Station Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Design Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year
Stallings Booster Station Culvert Replacement	$50,000	$5,000	$5,000	$60,000	HNTB Estimate	2019	$65,600
Stallings Booster Station Piping Replacement	$167,000	$16,700	$16,700	$200,400	HNTB Estimate	2019	$219,000
Campground Booster Station Improvements	$342,000	$34,200	$34,200	$410,400	HNTB Estimate	2020	$461,900
Lincoln Booster Station Replacement	$1,580,000	$158,000	$158,000	$1,896,000	HNTB Estimate	2020	$2,134,000
Total of Projects	**$2,139,000**	**$213,900**	**$213,900**	**$2,566,800**			**$2,880,500**

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TREATMENT PLANT PROJECTS - REQUIRED FOR CONTINUED SERVICE/IMMEDIATE NEEDS

Project Name	Estimated Construction Cost (2016 Dollars)	Estimated Non-Construction Costs (2016 Dollars)	Estimated Total Project Cost (2016 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Type
Replace MCCs/Switchgear/Transformers	$850,000	$170,000	$1,020,000	2016 Master Plan	2019	$1,115,000	Required for Service
Filter Backwash System - Replace Main In/Out of Floodwall to Tanks	$600,000	$120,000	$720,000	2016 Master Plan	2019	$787,000	Required for Service
Extend Existing Outfall Sewers	$500,000	$100,000	$600,000	HNTB Estimate	2019	$656,000	Required for Service
Line 36" Outfall #4 Sewer and Below Existing Filter Buildings	$80,000	$0	$80,000	2016 Master Plan	2019	$88,000	Required for Service
New 6.0 MG Clear well and HSP #4	$13,800,000	$2,760,000	$16,560,000	2016 Master Plan	2019	$18,096,000	Required for Service
Replace and Upgrade Main Plant Switchgear	$1,000,000	$200,000	$1,200,000	2016 Master Plan	2019	$1,312,000	Required for Service
Rehab/Repair North Secondary Sed Basin Structural Rehab	$500,000	$100,000	$600,000	HNTB Estimate	2019	$656,000	Required for Service
Transformer Switches (Allows Bypass of Main Switchgear)	$60,000	$12,000	$72,000	2016 Master Plan	2019	$79,000	Required for Service
Enclose Filters 13-20 at Gallery Access, Relocate 1.5MG Clearwell Vent (for Dehumidification Project)	$50,000	$10,000	$60,000	HNTB Estimate	2019	$66,000	Required for Service
Filters 13-20 Pipe Gallery Coating, Rehab, Replace (As Needed)	$100,000	$20,000	$120,000	2016 Master Plan	2019	$131,127	Required for Service
Flow Meters and Vaults for Transmission Mains (Four 30" and One 48")	$650,000	$130,000	$780,000	HNTB Estimate	2020	$877,897	Required for Service
Grout Injection to Repair Existing 6.5 MG Clearwell	$300,000	$60,000	$360,000	HNTB Estimate	2021	$418,000	Required for Service
Total of Projects	$18,490,000	$3,682,000	$22,172,000			$24,282,024	

2019	$22,986,127
2020	$877,897
2021	$418,000
TOTAL	$24,282,024

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TREATMENT PLANT PROJECTS - OPTION 1 - REHAB EXISTING PLANT FOR 5-10 ADDITIONAL YEARS OF CONTINUED SERVICE

Project Name	Estimated Construction Cost (2016 Dollars)	Estimated Non-Construction Costs (2016 Dollars)	Estimated Total Project Cost (2016 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Type
Coating LS Pump Station Exterior/Bridge/Interior	$130,000	$0	$130,000	2016 Master Plan	2019	$143,000	Pending WTP Decision
Coating LS Pump Station Piping and Equipment	$50,000	$0	$50,000	2016 Master Plan	2019	$55,000	Pending WTP Decision
Coating HS Pump Station No. 2 Piping and Equipment (Includes Lead Paint Abatement)	$195,000	$0	$195,000	2016 Master Plan	2019	$214,000	Pending WTP Decision
HSPS2 Rehab (Walls, Stairs, Platforms, Select Piping Replacement, Etc.)	$167,250	$33,450	$200,700	2016 Master Plan	2019	$220,000	Pending WTP Decision
36" DIP Between South Plant and North Plant 1.5 MG Clearwell	$375,000	$75,000	$450,000	2016 Master Plan	2019	$492,000	Pending WTP Decision
Filters 1-12 Membrane Retrofit (Lead Abatement, Coatings, Rehab, Demo)	$4,970,000	$994,000	$5,964,000	2016 Master Plan	2019	$6,518,000	Pending WTP Decision
Filter Backwash System - Replace Backup Fill Valve Actuator	$5,000	$0	$5,000	2016 Master Plan	2019	$6,000	Pending WTP Decision
Filter Backwash System - Maintain Vertical Turbine Backwash Pump	$10,000	$0	$10,000	HNTB Estimate	2019	$11,000	Pending WTP Decision
Demo and Replace Boiler Heating System (Includes Asbestos Insulation Demo)	$625,000	$125,000	$750,000	2016 Master Plan	2019	$820,000	Pending WTP Decision
Misc. Replacement of Piping, Flanges, Bolts/Nuts in LSPS	$15,000	$0	$15,000	2016 Master Plan	2019	$17,000	Pending WTP Decision
Sodium Chlorite Demo	$50,000	$10,000	$60,000	2016 Master Plan	2019	$66,000	Pending WTP Decision
Rehab North Sludge Station/Electrical Building	$55,000	$11,000	$66,000	2016 Master Plan	2020	$75,000	Pending WTP Decision
Rehab of South Sludge Pumps Station	$341,350	$68,270	$409,620	2016 Master Plan	2020	$462,000	Pending WTP Decision
Filters 1-20 Dehumidification Improvements	$93,750	$18,750	$112,500	2016 Master Plan	2020	$127,000	Pending WTP Decision
Filters 29-32 Dehumidification Improvements, Coatings, Rehab.	$128,750	$25,750	$154,500	2016 Master Plan	2020	$174,000	Pending WTP Decision
Coat all Headhouse Roof Support Members	$200,000	$0	$200,000	2016 Master Plan	2020	$226,000	Pending WTP Decision
Replace South Primary and Sec. Sed Basins 1 & 2 Equipment, Rehab Tanks, Electrical	$1,610,000	$322,000	$1,932,000	2016 Master Plan	2021	$2,240,000	Pending WTP Decision
Filters 21-28 Pipe Gallery Coating, Rehab, Replace (As Needed)	$60,000	$12,000	$72,000	2016 Master Plan	2021	$84,000	Pending WTP Decision
Filters 33-36 Dehumidification Improvements	$68,750	$0	$68,750	2016 Master Plan	2021	$80,000	Pending WTP Decision
Filter Backwash System - Reline Piping from Tanks to Filters	$400,000	$80,000	$480,000	2016 Master Plan	2021	$557,000	Pending WTP Decision
New Waste Stream Treatment and Residuals Handling Facility	$34,300,000	$6,860,000	$41,160,000	2016 Master Plan	2021	$47,716,000	Pending WTP Decision
Total of Projects	$43,849,850	$8,635,220	$52,485,070			$60,303,000	

2019	$8,562,000
2020	$1,064,000
2021	$50,677,000
TOTAL	$60,303,000

TREATMENT PLANT PROJECTS - OPTION 2 - NEW GWTP

Project Name	Estimated Construction Cost (2014 Dollars)	Estimated Non-Construction Costs (2014 Dollars)	Estimated Total Project Cost (2014 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Type
Property Acquistion - Well Field, Raw Water Mains, Treatment Plant Site	$860,000	$172,000	$1,032,000	HNTB Estimate	2020	$1,232,262	Pending WTP Decision
Raw Water Mains	$16,196,910	$3,239,382	$19,436,292	HNTB Estimate	2020	$23,207,949	Pending WTP Decision
Collector Wells	$9,000,000	$1,800,000	$10,800,000	HNTB Estimate	2020	$12,895,765	Pending WTP Decision
Water Treatment Plant							
Site Work and Residuals Pump Station	$3,000,000	$600,000	$3,600,000	HNTB Estimate	2020	$4,298,588	Pending WTP Decision
Treatment and Chemical Building Equipment	$14,300,000	$2,860,000	$17,160,000	HNTB Estimate	2020	$20,489,937	Pending WTP Decision
Treatment and Chemical Building Piping and Fittings	$6,400,000	$1,280,000	$7,680,000	HNTB Estimate	2020	$9,170,322	Pending WTP Decision
Yard Piping and Fittings	$2,600,000	$520,000	$3,120,000	HNTB Estimate	2020	$3,725,443	Pending WTP Decision
Concrete	$9,100,000	$1,820,000	$10,920,000	HNTB Estimate	2020	$13,039,051	Pending WTP Decision
Building Components	$2,400,000	$480,000	$2,880,000	HNTB Estimate	2020	$3,438,871	Pending WTP Decision
HVAC Components	$800,000	$160,000	$960,000	HNTB Estimate	2020	$1,146,290	Pending WTP Decision
Plumbing Components	$200,000	$40,000	$240,000	HNTB Estimate	2020	$286,573	Pending WTP Decision
Electrical Components	$3,400,000	$680,000	$4,080,000	HNTB Estimate	2020	$4,871,733	Pending WTP Decision
Instrumentation and Controls	$1,200,000	$240,000	$1,440,000	HNTB Estimate	2020	$1,719,435	Pending WTP Decision
Mobilization and Bonds (8% of Subtotal)	$5,556,553	$0	$5,556,553	HNTB Estimate	2020	$6,634,815	Pending WTP Decision
Contingency (20% of Subtotal)	$13,891,382	$0	$13,891,382	HNTB Estimate	2020	$16,587,037	Pending WTP Decision
Total of Projects	$88,044,845	$13,719,382	$101,764,227			$121,511,809	

2020	$121,511,809
TOTAL	$121,511,809

refresh EVANSVILLE

HNTB

PROJECTS TO SUPPLY WHOLESALE USERS INCREASED DEMANDS

Gibson County

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Estimated User Percent Responsible	Estimated User Cost Responsibility
Stallings Booster Station Replacement	$3,600,000	$360,000	$360,000	$4,320,000	HNTB Estimate	2021	$5,008,100	25%	$1,252,000
First Avenue, Pigeon Creek to Booster Station	$2,374,600	$237,460	$237,460	$2,849,520	HNTB Estimate	2021	$3,303,400	25%	$825,900
Shroeder Road to Volkman Tank - Extension	$1,040,000	$104,000	$104,000	$1,248,000	HNTB Estimate	2021	$1,446,800	25%	$361,700
Total of Projects	**$7,014,600**	**$701,460**	**$701,460**	**$8,417,520**			**$9,758,300**		**$2,439,600**

German Township - North Pressure Zone (existing feed)

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Estimated User Percent Responsible	Estimated User Cost Responsibility
Stallings Booster Station Replacement	$3,600,000	$360,000	$360,000	$4,320,000	HNTB Estimate	2021	$5,008,100	14%	$701,100
First Avenue Main Replacement - Pigeon Creek to Booster Station	$2,374,600	$474,920	$237,460	$3,086,980	HNTB Estimate	2021	$3,578,700	14%	$501,000
Total of Projects	**$5,974,600**	**$1,194,920**	**$597,460**	**$7,766,980**			**$8,586,800**		**$1,202,100**

German Township - Killian Pressure Zone (proposed southwest feed) [feed located at Creamery Road and Posey County Line Road]

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Estimated User Percent Responsible	Estimated User Cost Responsibility
Killian Booster Station Replacement	$3,500,000	$350,000	$350,000	$4,200,000	HNTB Estimate	2021	$4,869,000	17%	$827,700
Middle Mt Vernon, Creamery Road, Posey County Line Road - Extension	$2,400,000	$240,000	$240,000	$2,880,000	HNTB Estimate	2021	$3,338,700	100%	$3,338,700
Peerless Road, Upper Mt Vernon to Moya	$1,550,000	$155,000	$155,000	$1,860,000	HNTB Estimate	2021	$2,156,200	50%	$1,078,100
Hogue Road - Phase III	$1,271,000	$127,100	$127,100	$1,525,200	HNTB Estimate	2021	$1,768,100	50%	$884,100
Peerless Road, Moye to Hogue	$2,914,000	$291,400	$291,400	$3,496,800	HNTB Estimate	2021	$4,053,700	50%	$2,026,900
Total of Projects	**$11,635,000**	**$1,163,500**	**$1,163,500**	**$13,962,000**			**$16,185,700**		**$8,155,500**

Warrick County (including North Warrick Industrial Park)

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Estimated User Percent Responsible	Estimated User Cost Responsibility
Stallings Booster Station Replacement	$3,600,000	$360,000	$360,000	$4,320,000	HNTB Estimate	2021	$5,008,100	14%	$701,100
Northern Pressure Zone Elevated Storage Tank	$2,500,000	$250,000	$250,000	$3,000,000	HNTB Estimate	2021	$3,477,800	12%	$417,300
First Avenue Main Replacement - Pigeon Creek to Booster Station	$2,374,600	$237,460	$237,460	$2,849,520	HNTB Estimate	2021	$3,303,400	14%	$462,500
Volkman Road / Seven Hills Road - Extension	$3,886,000	$388,600	$388,600	$4,663,200	HNTB Estimate	2021	$5,405,900	12%	$648,700
Total of Projects	**$12,360,600**	**$1,236,060**	**$1,236,060**	**$14,832,720**			**$17,195,200**		**$2,229,600**

Elberfeld

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Estimated User Percent Responsible	Estimated User Cost Responsibility
Stallings Booster Station Replacement	$3,600,000	$360,000	$360,000	$4,320,000	HNTB Estimate	2021	$5,008,100	1%	$50,100
Northern Pressure Zone Elevated Storage Tank	$2,500,000	$250,000	$250,000	$3,000,000	HNTB Estimate	2021	$3,477,800	2%	$69,600
First Avenue Main Replacement - Pigeon Creek to Booster Station	$2,374,600	$237,460	$237,460	$2,849,520	HNTB Estimate	2021	$3,303,400	1%	$33,000
Volkman Road / Seven Hills Road - Extension	$3,886,000	$388,600	$388,600	$4,663,200	HNTB Estimate	2021	$5,405,900	2%	$108,100
Total of Projects	**$12,360,600**	**$1,236,060**	**$1,236,060**	**$14,832,720**			**$17,195,200**		**$260,800**

Vanderburgh Industrial Park

Project Name	Estimated Construction Cost (2017 Dollars)	Estimated Non-Construction Costs (2017 Dollars)	Estimated Construction Engineering and Resident Project Representative Costs (2017 Dollars)	Estimated Total Project Cost (2017 Dollars)	Cost Source	Estimated Construction Year	Estimated Total Project Cost in Construction Year	Estimated User Percent Responsible	Estimated User Cost Responsibility
Stallings Booster Station Replacement	$3,600,000	$360,000	$360,000	$4,320,000	HNTB Estimate	2021	$5,008,100	9%	$450,700
Northern Pressure Zone Elevated Storage Tank	$2,500,000	$250,000	$250,000	$3,000,000	HNTB Estimate	2021	$3,477,800	14%	$486,900
First Avenue Main Replacement - Pigeon Creek to Booster Station	$2,374,600	$237,460	$237,460	$2,849,520	HNTB Estimate	2021	$3,303,400	9%	$297,300
Volkman Road / Seven Hills Road - Extension	$3,886,000	$388,600	$388,600	$4,663,200	HNTB Estimate	2021	$5,405,900	14%	$756,800
Total of Projects	**$12,360,600**	**$1,236,060**	**$1,236,060**	**$14,832,720**			**$17,195,200**		**$1,991,700**

Presidents Neighborhood Water Main Replacement Project - Cost Estimate Escalations Sept 2016 to June 2018

Doc. 2 — **Cause No. 44760 - Petitioner's Attachment PRK-3 - March 29, 2016**

Project	Description	2017	2018	2019	2020	4 Year Total
Presidents Neighborhood Central	Replace mains on Adams, Madison, Monroe, Jackson, Taylor and Ravenswood between Lodge and Rotherwood. Also, Brookside, Bennighof, Englewood. Existing are 2" galvanized steel pipe and 6" cast iron pipe; proposed is 8" PVC (C900) - numerous breaks - improved water quality and fire protection.		$ 2,169,700			$ 2,169,700
Presidents Neighborhood West	Replace mains on Harlan, Henning, Madison from Washington to Covert (near Marshall); replacing 6" cast iron with 8" PVC (C900); numerous breaks – improved water quality and fire protection.		$ 1,141,100			$ 1,141,100
Presidents Neighborhood East	Replace mains on Monroe Ave. and Taylor Ave. from Rotherwood Ave. to Weinbach Weinbach Ave. Also, replace mains on Norman Ave. and Frederick Ave. from Taylor Ave. to Ravenswood Dr.				$ 739,850	$ 739,850
Construction Cost (All costs shown include 13% for general conditions, bond & insurance, mobilization & demob, clean-up and site restoration, contingencies (30%), and non-construction (25%).) 2016 Water Master Plan, HNTB, p. 4-3		$ -	$ 3,310,800	$ -	$ 739,850	$ 4,050,650

Doc. 3 — **Water Master Plan - HNTB Sept 2016**

Project Name	Project Description	Project Year	Total Project Cost	
Presidents N'borhood Central	Benninghof, Englewood) (430' of 4"; 9,800' of 8")	2018	$2,272,000	
Presidents N'brhood West	Presidents Neighborhood West (Harlan, Henning, Madison from Washington to Covert) (5,650' of 8")	2018	$1,320,000	
Presidents N'borhood East	Mistakenly omitted from the 2016 Master Plan	Not Listed	Not Listed	Presidents Neighborhood West project was included twice.

Doc. 4 — **Cause No. 45073 DR 3-12 response - Actual 44760 work completed - June 29, 2018**

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
President's Neighborhood Central		Not Listed	Not Listed	Not Listed	$305,150	Design Only Encumbered
President's Neighborhood West		Not Listed	Not Listed	Not Listed	$213,964	Design Only Encumbered
President's Neighborhood East		Not Listed	Not Listed	Not Listed	$83,790	Design Only Encumbered

Prepared by:
Jim Parks / OUCC/ July 18, 2018

Presidents Neighborhood Water Main Replacement Project - Cost Estimate Escalations Sept 2016 to June 2018

Doc. 5 **Cause No. 45073 - Petitioner's Attachment PRK-2 - March 26, 2018**

Project	Project Description	2019	2020	2021	3 Year Total
President's Neighborhood Central - no Description provided			$ 3,905,300		$ 3,905,300
President's Neighborhood West - no Description provided			$ 3,666,600		$ 3,666,600
President's Neighborhood East - no Description provided			$ 1,435,800		$ 1,435,800
	Estimated Total Project Costs		$ 9,007,700		$ 9,007,700

Doc. 6 **Drinking Water SRF Application - April 25, 2018**

REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"

SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Costs - 2017 Dollars Project Name	Construction	Construction Year	Project Length (ft)	Average Ranking	Project Need
3	Presidents Neighborhood	$ 7,321,000	2019	20,400	N/A	Current project

Doc. 7 **Drinking Water SRF Preliminary Engineering Report - June 15, 2018 (Total Construction Cost Estimate by Wessler Engineering)**

Project #	Project Name	Construction	
3	Presidents Neighborhood	$7,314,000	21,100

Doc. 8 **Water Main Projects Spreadsheet submitted to OUCC - DR 7-1**

Project #	Project Name	Est. Total Project Cost	Construction Year	Length (ft)	Average Ranking	Project Need
Unnumbered	President's Neighborhood Central	$ 3,905,300	2019	9,300	194	Current project
Unnumbered	President's Neighborhood West	$ 3,666,600	2019	7,700	185	Current project
Unnumbered	President's Neighborhood East	$ 1,435,800	2019	3,400	180	Current project
	Estimated Total Project Cost in Construction Year	$ 9,007,700	2019	20,400		

Sweetser Rotherwood Area Water Main Replacement Project - Cost Estimate Escalations Sept 2016 to June 2018

Doc. 2 — **Cause No. 44760 - Petitioner's Attachment PRK-3 - March 29, 2016**

Project	Description	2017	2018	2019	2020	4 Year Total
Sweetser Rotherwood Area	Replace mains on Waggoner, Cass, Ridgeway, Sweetser, Conlin, Crystal Court, Plantation, Rotherwood, Frederick and Norman in area bounded by Covert, Weinbach, Pollack and Lodge; replacing 6" cast iron pipe with 8" PVC (C900); numerous breaks - improved fire protection – water quality.		$ 3,584,800			$ 3,584,800

Doc. 3 — **Water Master Plan - HNTB Sept 2016**

Project Name	Project Description	Project Year	Total Proj. Cost
Sweetser Rotherwood Area	bounded by Covert, Weinbach, Pollack, and Lodge) (16,540' of 8")	2018	$ 3,059,000

Doc. 4 — **Cause No. 45073 DR 3-12 response - Actual 44760 work completed - June 29, 2018**

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Sweetser Rotherwood Area	Neighborhood bounded by Covert Avenue, Weinbach Avenue, Pollack Avenue, Lodge Avenue	8"	C-900 PVC	15,800'	$352,000	Design Only Encumbered

Doc. 5 — **Cause No. 45073 - Petitioner's Attachment PRK-2 - March 26, 2018**

Project	Project Description	2019	2020	2021	3 Year Total
Sweetser Rotherwood Area	None provided	$ 5,619,200			$ 5,619,200

Doc. 6 — **Drinking Water SRF Application - April 25, 2018**

REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"

SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Name	Project Costs - 2017 Dollars: Construction	Construction Year	Project Length (ft)	Average Ranking	Project Need
4	Sweetser Rotherwood Area	$ 4,567,000	2019	15,800	N/A	Current project

Doc. 7 — **Drinking Water SRF Preliminary Engineering Report - June 15, 2018 (Total Construction Cost Estimate by Wessler Engineering)**

Project #	Project Name	Construction
4	Sweetser Rotherwood Area	$5,372,000

Doc. 8 — **Water Main Projects List submitted to DWSRF - Print Date 12/22/2017**

Project #	Project Name	Est. Total Project Cost	Construction Year	Length (ft)	Average Ranking	Project Need
Unnumbered	Sweetser Rotherwood Area	$5,619,200	2019	15,800	186	Current project

Prepared by:
Jim Parks / OUCC/ July 18, 2018

Washington and Second - Relocation - Cost Estimate Escalations March 26, 2016 to July 2018

Doc. 2 — **Cause No. 44760 - Petitioner's Attachment PRK-7 - March 29, 2016**

Project	Description	2017	2018	2019	2020	4 Year Total
Washington & Second - Relocation	Replace water line within road project limits. Replace approximately 1,937' of 8" cast iron pipe on Washington St., Second St., and Parrett St. south of Second St. with 8" PVC (C900). Replace 460' of 16" cast iron pipe on Adams Ave. and Second St. with 16" PVC (C905). Although prompted by the road improvements, the existing water mains have outlived their useful life and need replaced.		$ 646,700			$ 646,700

Doc. 3 — **Water Master Plan - HNTB Sept 2016**

Project Name	Project Description	Project Year	Total Project Cost
Washington & Second - Relocation	Not Listed		

Doc. 5 — **Cause No. 45073 - Petitioner's Attachment PRK-2 - March 26, 2018**

Project	Project Description	2019	2020	2021	3 Year Total
Washington & Second - Relocation	None provided	$ 1,704,200			$ 1,704,200

Doc. 6 — **Drinking Water SRF Application - April 25, 2018**

REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"

SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Name	Project Costs - 2017 Dollars: Construction	Construction Year	Project Length (ft)	Average Ranking	Project Need
6	Washington and Second - Relocation	$ 1,385,000	2019	2,300	N/A	Current project

Doc. 7 — **Drinking Water SRF Preliminary Engineering Report - June 15, 2018 (Total Construction Cost Estimate by Wessler Engineering)**

Project #	Project Name	Construction	Length (ft)
6	Washington and Second Water Main Replacement	$800,000	2,075

Doc. 8 — **Water Main Projects List submitted to DWSRF - Print Date 12/22/2017**

Project #	Project Name	Est. Total Project Cost	Construction Year	Total LF	Average Ranking	Project Need
Unnumbered	Washington and Second - Relocation	$1,704,200	2019	2,300		Current project

Doc. 9 — **Water Main Projects Spreadsheet submitted to OUCC - DR 7-1**

Project #	Project Name	Est. Total Project Cost	Construction Year	Total LF	Average Ranking	Project Need
Unnumbered	Washington and Second - Relocation	$1,704,200	2019	2,300		

Hogue Road, New Harmony Road and Harmony Way - Cost Estimate Escalations March 26, 2016 to July 2018

Doc. 1 — **City of Evansville Utility Master Plans Water and Sewer Utility Volume 2 – Water Master Plan, HNTB October 2009**

Project Name	Project Description	Project Year	Total Project Cost	Planning Cost	Design Cost	Construction Cost

Doc. 2 — **Cause No. 44760 - Petitioner's Attachment PRK-3 - March 29, 2016**

Project	Description	2017	2018	2019	2020	4 Year Total
Hogue Rd. from N. Red Bank Rd, west to Williams Rd.	Replace existing 8" unlined cast iron main with new 8" PVC (C900) pipe due to numerous breaks.	$ 1,651,975				$ 1,651,975
New Harmony Road from Allens Lane to Harmony Way	2,200' (New Harmony Rd from Allens Ln., to Harmony Way) of new 12" PVC (C900) is proposed to replace an aged existing 4" cast iron main that is in poor condition and frequently breaks.	$ 536,000				$ 536,000
Harmony Way; Franklin Heights Neighborhood	Replace existing mains (4", 6" and 8" cast iron) on Harmony Way and in Franklin Heights neighborhood with 12" PVC (C900) to improve flow, fire protection and water quality to Reitz H.S. area and to eliminate water breaks.	$ 2,488,010				$ 2,488,010
Construction Cost (All costs shown include 13% for general conditions, bond & insurance, mobilization & demob, clean-up and site restoration, contingencies (30%), and non-construction (25%).) 2016 Water Master Plan, HNTB, p. 4-3		$ 4,675,985	$ -	$ -	$ -	$ 4,675,985

Doc. 3 — **Water Master Plan - HNTB Sept 2016**

Project Name	Project Description	Project Year	Total Project Cost
Hogue Rd. - Phase I	Hogue from Red Bank to Williams (7,780' of 8"; 80' of 12")	2017	$3,272,000
New Harmony from Allens Ln	New Harmony from Allens to Harmony Way (2,540' of 8")	2017	$415,000
Harmony Way; Franklin Heights Neighborhood	Not Listed		

Hogue Road, New Harmony Road and Harmony Way - Cost Estimate Escalations March 26, 2016 to July 2018

Doc. 5 **Cause No. 45073 - Petitioner's Attachment PRK-2 - March 26, 2018**

Project	Project Description	2019	2020	2021		3 Year Total
Hogue Road Red Bank to Williams	None provided	$ 2,391,900				$ 2,391,900
New Harmony Road, Allens Lane to Harmony Way	None provided	$ 1,061,800				$ 1,061,800
Harmony Way, Franklin Heights Neighborhood	None provided	$ 4,478,700				$ 4,478,700
	Estimated Total Project Costs	$ 7,932,400	$ -	$ -	$ -	$ 7,932,400

Doc. 6 **Drinking Water SRF Application - April 25, 2018**

REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"

SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Costs - 2017 Dollars Project Name	Construction	Construction Year	Project Length (ft)	Average Ranking	Project Need
7	Hogue Road, New Harmony Road and Harmony Way	$ 6,447,000	2019	20,500	N/A	Current project

Doc. 7 **Drinking Water SRF Preliminary Engineering Report - June 15, 2018 (Total Construction Cost Estimate by Clark Dietz)**

Project #	Project Name	Construction	Length (ft)
7	Hogue Road, New Harmony Road and Harmony Way	$7,253,586	22,830

Doc. 8 **Water Main Projects List submitted to DWSRF - Print Date 12/22/2017**

Project #	Project Name	Est. Total Project Cost	Construction Year	Total LF	Average Ranking	Project Need
Unnumbered	Hogue Road Red Bank to Williams	$ 2,391,900	2019	8,500		Current project
Unnumbered	New Harmony Road, Allens Lane to Harmony Way	$ 1,061,800	2019	2,400		Current project
Unnumbered	Harmony Way, Franklin Heights Neighborhood	$ 4,478,700	2019	9,600		Current project
	Estimated Total Project Cost in Construction Year	$ 7,932,400	2019	20,500		

Doc. 9 **Water Main Projects Spreadsheet submitted to OUCC - DR 7-1**

Project #	Project Name	Est. Total Project Cost	Construction Year	Total LF	Average Ranking	Project Need
Unnumbered	Hogue Road Red Bank to Williams	$ 2,391,900	2019	8,500		
Unnumbered	New Harmony Road, Allens Lane to Harmony Way	$ 1,061,800	2019	2,400		
Unnumbered	Harmony Way, Franklin Heights Neighborhood	$ 4,478,700	2019	9,600		
	Estimated Total Project Cost in Construction Year	$ 7,932,400	2019	20,500		

Prepared by:
Jim Parks / OUCC/ July 18, 2018

Fendrich Neighborhood - Cost Estimate Escalations March 26, 2016 to July 2018

Doc. 1 — **City of Evansville Utility Master Plans Water and Sewer Utility Volume 2 – Water Master Plan, HNTB October 2009**

Project Name	Project Description	Project Year	Total Project Cost	Planning Cost	Design Cost	Construction Cost
Fendrich Neighborhood	Replace mains on Richardt, Oakland Ave, and Herndon Ave. (4,600' of 8")	2013	$ 740,000		$124,000	$616,000

Doc. 2 — **Cause No. 44760 - Petitioner's Attachment PRK-3 - March 29, 2016**

Project	Description	2017	2018	2019	2020	4 Year Total
Fendrich Neighborhood	Replace aged 4" asbestos concrete (transite) and 6" cast iron mains with 8" PVC (C900) on Richardt Ave., Oakland Ave, and Herndon Ave. to improve distribution, water quality, and fire protection to the vicinity			$ 740,000		$ 740,000

Doc. 3 — **Water Master Plan - HNTB Sept 2016**

Project Name	Project Description	Project Year	Total Project Cost
Fendrich Neighborhood	Fendrich Neighborhood (Richardt, Oakland, Herndon between Wedeking, Hercules, Morgan, and Haven) (4,340' of 8")	2019	$882,000

Doc. 4 — **Cause No. 45073 DR 3-12 response - Actual 44760 work completed - June 29, 2018**

Project	Location	New main diameter	New main material	Length	Total Cost	Comments
Fendrich Neighborhood						Project placed in 2019 Rate Case

Doc. 5 — **Cause No. 45073 - Petitioner's Attachment PRK-2 - March 26, 2018**

Project	Project Description	2019	2020	2021		3 Year Total
Fendrich Neighborhood	None provided		$ 2,866,000		$ 2,866,000	$ 2,866,000

Doc. 6 — **Drinking Water SRF Application - April 25, 2018**
REFRESH EVANSVILLE - PRELIMINARY ENGINEERING REPORT "A"
SUMMARY OF PROJECTS FOR STATE REVOLVING FUND, DRINKING WATER APPLICATION

PER #	Project Costs - 2017 Dollars Project Name	Construction	Construction Year	Project Length (ft)	Average Ranking	Project Need
24	Fendrich Neighborhood	$ 2,077,000	2020	6,700	N/A	Current project

Doc. 7 — **Drinking Water SRF Preliminary Engineering Report - June 15, 2018**

PROJECT #	Project Name	Construction
24	Fendrich Neighborhood	$2,250,311

City of Evansville
Cause No. 45073

Prepared by:
Jim Parks / OUCC/ July 18, 2018

Comparison of 2018 Engineers' Estimates versus 2018 Actual Competitive Bid Prices
Evansville Water and Sewer Utility, Cause No. 45073

	Mt. Auburn WM Replace		Lodge Ave. WM Replacement			Vanderburgh Phase I, II, & Combination			
	Eng. Est.	Low Bid	Eng. Est.	Low Bid	Low Bid	Eng. Est.	Low Bid	Eng. Est.	Low Bid
	HNTB	BMB, Inc.	Unk 90%	Ragle, Inc.	Ragle, Inc.	Wessler	BMB, Inc.	CHA 90%	BMB, Inc.
Water main	4/12/2018	6/12/2018	4/18/2018	6/12/2018	6/12/2018	Unknown	5/1/2018	4/19/2018	5/1/2018
4" C900 PVC Open Cut	$ 120.00	$ 54.00	$ 140.00	NA	$ 100.00	$ 130.00	$ 49.00	NA	$ 49.00
6" C900 PVC Open Cut	$ 170.00	NA	$ 170.00	$ 115.00	$ 115.00	NA	NA	$ 75.00	$ 35.00
8" C900 PVC Open Cut	$ 100.00	$ 60.00	$ 130.00	$ 80.00	$ 80.00	$ 150.00	$ 55.00	$ 80.00	$ 57.00
12" C900 PVC Open Cut	NA	NA	$ 115.00	$ 90.00	$ 90.00	NA	NA	NA	NA
6" Ductile Iron	NA	NA	NA	NA	NA	NA	$ 35.00	NA	$ 35.00
8" Ductile Iron	NA	NA	$ 185.00	NA	NA	NA	NA	NA	NA
12" Ductile Iron	NA	NA	$ 210.00	195	195	NA	NA	NA	NA
3/4" or 1" Service Open Cut	$ 1,500.00	$ 2,400.00	$ 2,200.00	$ 2,000.00	$ 2,000.00	$ 1,600.00	$ 1,800.00	$ 250.00	$ 1,800.00
3/4" or 1" Service Trenchless	NA	NA	$ 1,750.00	$ 2,800.00	$ 2,800.00	$ 2,100.00	$ 2,150.00		$ 2,150.00
Total Eng. Est. or Low Bid	$ 595,000	$ 469,917	$ 5,831,358	$ 2,913,543	$ 3,989,513	$ 646,000	$ 407,805	$ 771,000	$ 1,405,330
Water Main Length (feet)	2,505	2,450	10,913	8,385	10,986	2,795	2,795	6,265	8,995
Nominal Cost per foot	$ 237.52	$ 191.80	$ 534.35	$ 347.47	$ 363.15	$ 231.13	$ 145.91	$ 123.06	$ 156.23
Bidders		4			4				3

	Green River WM Replace		W. Mill Rd & Mohr Rd. WM Replacement	
	Eng. Est.	Low Bid	Eng. Est.	Low Bid
	EWSU	Blankenberg	HNTB	Infra. Sys.
Water main	1/26/2018	6/12/2018	1/11/2018	2/20/2018
4" C900 PVC Open Cut	NA	NA	NA	NA
6" C900 PVC Open Cut	NA	NA	NA	NA
8" C900 PVC Open Cut	$ 90.00	$ 80.00	NA	NA
12" C900 PVC Open Cut	$ 115.00	$ 69.00	$ 200.00	$ 40.00
6" Ductile Iron	NA	NA	NA	NA
8" Ductile Iron	NA	NA	NA	NA
12" Ductile Iron	$ 250.00	$ 133.00	NA	NA
3/4" or 1" Service Open Cut	$ 2,000.00	$ 1,200.00	$ 2,000.00	$ 935.00
3/4" or 1" Service Trenchless	$ 2,200.00	$ 1,700.00	NA	NA
Total Eng. Est. or Low Bid	$ 2,492,510	$ 1,484,205	$ 1,376,000	$ 562,656
Water Main Length (feet)	10,048	10,048	3,478	3,478
Nominal Cost per foot	$ 248.06	$ 147.71	$ 395.63	$ 161.78
Bidders		6		5

Comparison of Engineer's Estimates and Actual Competitive Bid Prices

Engineers' Estimates (all five projects)

Total Estimated Contruction Cost	$ 11,065,868
Total Water Main Length (lineal feet)	33,209
OUCC Calculated Eng. Est. - Cost per LF	$ 333

Actual Low Bid Prices (all five projects)

Total of Low Bids	$ 7,911,621
Total Water Main Length - LF	35,957
OUCC Calculated Bid Cost per LF	$ 220

SRF Total Construction Cost Estimates (OUCC DR 7-1)

Year	2017 Cost	LF	Est. Cost/LF
2019	29,971,200	78,420	$ 382
2010	23,633,000	78,140	$ 302
2021	25,878,800	79,680	$ 325
Total	79,483,000	236,240	$ 336

Prepared by:
Jim Parks / OUCC / July 13, 2018

OUCC DR 5-28

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

For each of the five most recent water main replacement projects, please provide the Engineer's Estimate, the bid tabulation, and the bid evaluation.

Information Provided:

See attached documents titled *Engineer's Estimates for Five Most Recent Main Replacement Projects* (OUCC DR 5-28, Attachment 1.pdf) and *Bid Tabulations for Five Most Recent Main Replacement Projects* (OUCC DR 5-28, Attachment 2.pdf). Formal bid evaluations do not exist for these projects. Actual bid submittals and the completeness of those bid submittals along with the bid tabulations are used for bid evaluations.

Attachments:

OUCC DR 5-28, Attachment 1.pdf
OUCC DR 5-28, Attachment 2.pdf

HNTB	OPINION OF PROBABLE CONSTRUCTION COST					
EWSU PROJECT NO.: W11122	Prepared by:	EFM		Date:	4/12/2018	
PROJECT NAME: **MT AUBURN WATER MAIN REPLACEMENT**	Checked by:	SAL		Date:	4/12/2018	
PROJECT DESIGNER.: CRAWFORD, MURPHY & TILLY	Checked by:			Date:		
#	**Description**	**QUANTITY**	**UNIT**	**UNIT PRICE**	**TOTAL**	**COMMENTS**
7	8" C900 PVC Water Main with Tracer Wire, Open Cut Excavation	2,430	LF	$ 100.00	$ 243,000	
5	4" C900 PVC Water Main with Tracer Wire, Open Cut Excavation	20	LF	$ 120.00	$ 2,400	
6	6" C900 PVC Water Main with Tracer Wire, Open Cut Excavation	55	LF	$ 140.00	$ 7,700	
8	12" Tapping Sleeve and 8" Tapping Valve	1	EA	$ 2,000.00	$ 2,000	
9	Fire Hydrant Assembly with 6" Hydrant Hydrant Valve, Valve Box and 6" DI Hydrant Lead Pipe	6	EA	$ 4,000.00	$ 24,000	
10	Remove Existing Hydrants	3	EA	$ 640.00	$ 1,920	
11	4" DI MJ Gate Valve with Valve Box	2	EA	$ 1,200.00	$ 2,400	
12	8" DI MJ Gate Valve with Valve Box	4	EA	$ 1,500.00	$ 6,000	
13	Existing Valve Box Removal	4	EA	$ 200.00	$ 800	
14	4" MJ Plug	1	EA	$ 95.00	$ 95	
15	8" x 8" x 4" DI MJ Tee with Restraints	2	EA	$ 475.00	$ 950	
16	8" x 8" x 6" DI MJ Tee with Restraints	6	EA	$ 360.00	$ 2,160	
17	8" x 8" x 8" DI MJ Tee with Restraints	1	EA	$ 390.00	$ 390	
18	8" MJ 11.25 Bend with Restraints	1	EA	$ 345.00	$ 345	
19	8" MJ 22.5 Bend with Restraints	1	EA	$ 325.00	$ 325	
20	4" MJ 45 Bend with Restraints	2	EA	$ 225.00	$ 450	
21	8" MJ 45 Bend with Restraints	6	EA	$ 250.00	$ 1,500	
22	Air Release Valves	3	EA	$ 4,000.00	$ 12,000	
23	Temporary Blow-Off with Valve Box	2	EA	$ 1,000.00	$ 2,000	
24	3/4" Chlorination Tap	3	EA	$ 500.00	$ 1,500	
25	3/4" or 1" Water Service Relocation, Open Cut	26	EA	$ 1,500.00	$ 39,000	
26	2" Water Service Relocation, Open Cut	1	LF	$ 3,500.00	$ 3,500	
27	Concrete Plugs for Main Abandonment	3	LS	$ 2,500.00	$ 7,500	
28	HMA, Base 9.5mm	2,505	LF	$ 50.00	$ 125,250	
Sub-Total					$ 487,185	
1	Mobilization/Demobilization	1	LS	$ 24,359.25	$ 24,359	
2	Construction Engineering	1	LS	$ 7,307.78	$ 7,308	
3	Erosion Control	1	LS	$ 14,615.55	$ 14,616	
4	Maintenance of Traffic	1	LS	$ 2,435.93	$ 2,436	
29	Restoration, Grading and Seeding	1	LS	$ 4,871.85	$ 4,872	
Sub-Total					$ 540,775	
Construction Contingencies (10%)					$ 54,100	
Estimated Construction Costs					**$ 595,000**	

NOTE ! This estimate represents our judgment as professionals familiar with the construction industry.
We cannot and do not guarantee that bids will not vary from this estimate.

EVANSVILLE WATER AND SEWER UTILITY
W11095 - LODGE AVENUE WATER MAIN REPLACEMENT PROJECT
90% DESIGN - APRIL 18, 2018
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	BID PRICE
1a	8" Ductile Iron Pipe	19	LF	$ 185.00	$ 3,515.00
1b	12" Ductile Iron Pipe	1,012	LF	$ 210.00	$ 212,520.00
2a	4" PVC C-900 Pipe, DR 18	325	LF	$ 140.00	$ 45,500.00
2b	6" PVC C-900 Pipe, DR 18	156	LF	$ 170.00	$ 26,520.00
2c	8" PVC C-900 Pipe, DR 18	1,074	LF	$ 130.00	$ 139,620.00
2d	12" PVC C-900 Pipe, DR 18	7,547	LF	$ 115.00	$ 867,905.00
2e	12" PVC C-900 Restrained Joint Pipe, DR 18	780	LF	$ 165.00	$ 128,700.00
3a	4" Gate Valve	1	Each	$ 1,150.00	$ 1,150.00
3b	6" Gate Valve	13	Each	$ 1,400.00	$ 18,200.00
3c	8" Gate Valve	31	Each	$ 1,750.00	$ 54,250.00
3d	12" Gate Valve	31	Each	$ 3,300.00	$ 102,300.00
4a	8" x 6" MJ Tee	25	Each	$ 520.00	$ 13,000.00
4b	8" x 8" MJ Tee	1	Each	$ 640.00	$ 640.00
4c	12" x 4" MJ Tee	1	Each	$ 780.00	$ 780.00
4d	12" x 6" MJ Tee	11	Each	$ 820.00	$ 9,020.00
4e	12" x 8" MJ Tee	23	Each	$ 870.00	$ 20,010.00
4f	12" x 12" MJ Tee	10	Each	$ 1,190.00	$ 11,900.00

EVANSVILLE WATER AND SEWER UTILITY
W11095 - LODGE AVENUE WATER MAIN REPLACEMENT PROJECT
90% DESIGN - APRIL 18, 2018
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	BID PRICE
5a	4" MJ 45° Bend	4	Each	$ 310.00	$ 1,240.00
5b	6" MJ 45° Bend	24	Each	$ 375.00	$ 9,000.00
5c	8" MJ 45° Bend	12	Each	$ 500.00	$ 6,000.00
5d	12" MJ 45° Bend	89	Each	$ 1,100.00	$ 97,900.00
6a	6" MJ 22.5° Bend (Undistributed Quantity)	6	Each	$ 375.00	$ 2,250.00
6b	8" MJ 22.5° Bend (Undistributed Quantity)	10	Each	$ 490.00	$ 4,900.00
6c	12" MJ 22.5° Bend (Undistributed Quantity)	10	Each	$ 1,150.00	$ 11,500.00
7a	6" MJ 11.25° Bend (Undistributed Quantity)	2	Each	$ 360.00	$ 720.00
7b	8" MJ 11.25° Bend (Undistributed Quantity)	10	Each	$ 475.00	$ 4,750.00
7c	12" MJ 11.25° Bend (Undistributed Quantity)	10	Each	$ 1,080.00	$ 10,800.00
8a	6" x 4" MJ Reducer	1	Each	$ 475.00	$ 475.00
8b	8" x 6" MJ Reducer (Undistributed Quantity)	2	Each	$ 525.00	$ 1,050.00
8c	12" x 8" MJ Reducer (Undistributed Quantity)	6	Each	$ 640.00	$ 3,840.00
9a	6" x 6" Tapping Sleeve & Valve	1	Each	$ 4,900.00	$ 4,900.00
9b	12" x 12" Tapping Sleeve & Valve	1	Each	$ 9,200.00	$ 9,200.00
10	12" Expansion Coupling	4	Each	$ 6,300.00	$ 25,200.00
11a	8" MJ Plug	20	Each	$ 420.00	$ 8,400.00

EVANSVILLE WATER AND SEWER UTILITY
W11095 - LODGE AVENUE WATER MAIN REPLACEMENT PROJECT
90% DESIGN - APRIL 18, 2018
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	BID PRICE
11b	12" MJ Plug	6	Each	$ 500.00	$ 3,000.00
12	Fire Hydrant Assembly w/ Hydrant Valve	23	Each	$ 5,800.00	$ 133,400.00
13	Air Relief Valve Assembly	6	Each	$ 5,100.00	$ 30,600.00
14	Blow-off Assembly, Temporary	20	Each	$ 1,175.00	$ 23,500.00
15	3/4" Chlorination Tap	12	Each	$ 1,250.00	$ 15,000.00
16	Pressure Testing and Disinfection	1	L Sum	$ 70,000.00	$ 70,000.00
17a	3/4"-1" Water Service Relocation, Trenchless	108	Each	$ 1,750.00	$ 189,000.00
17b	3/4"-1" Water Service Relocation, Open Cut	54	Each	$ 2,200.00	$ 118,800.00
17c	2" Water Service Relocation, Trenchless	1	Each	$ 2,500.00	$ 2,500.00
17d	2" Water Service Relocation, Open Cut	1	Each	$ 3,200.00	$ 3,200.00
17e	4" Water Service Relocation, Open Cut	1	Each	$ 6,400.00	$ 6,400.00
17f	6" Fire Service Relocation, Open Cut	2	Each	$ 10,500.00	$ 21,000.00
18a	3/4"-1" Water Meter Relocation	45	Each	$ 1,200.00	$ 54,000.00
18b	2" Water Meter Relocation	2	Each	$ 3,300.00	$ 6,600.00
18c	4" Water Meter Relocation	1	Each	$ 25,000.00	$ 25,000.00
19a	4" Line Stop (Undistributed Quantity)	1	Each	$ 4,900.00	$ 4,900.00
19b	6" Line Stop (Undistributed Quantity)	6	Each	$ 5,750.00	$ 34,500.00

EVANSVILLE WATER AND SEWER UTILITY
W11095 - LODGE AVENUE WATER MAIN REPLACEMENT PROJECT
90% DESIGN - APRIL 18, 2018
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	BID PRICE
19c	8" Line Stop (Undistributed Quantity)	6	Each	$ 6,750.00	$ 40,500.00
19d	12" Line Stop (Undistributed Quantity)	2	Each	$ 10,500.00	$ 21,000.00
20a	Abandon and Grout Fill Existing Main	204	LF	$ 12.00	$ 2,448.00
20b	Concrete Plugs for Main Abandonment	1	L Sum	$ 15,000.00	$ 15,000.00
21a	Hydrant Removal	19	Each	$ 925.00	$ 17,575.00
21b	Valve Box Removal	51	Each	$ 360.00	$ 18,360.00
22	Removal of Unsuitable Material	2,870	LF	$ 20.00	$ 57,400.00
23a	10" Pressure Rated Pipe for Storm / Sanitary Sewers	110	LF	$ 250.00	$ 27,500.00
23b	12" Pressure Rated Pipe for Storm / Sanitary Sewers (Undistributed Quantity)	80	LF	$ 275.00	$ 22,000.00
24	Granular Backfill	10,509	LF	$ 35.00	$ 367,815.00
25	Compacted Aggregate, No. 53	8,923	LF	$ 40.00	$ 356,920.00
26a	Hot Mix Asphalt, Base, 25mm, 5.5" thick	8,012	LF	$ 70.00	$ 560,840.00
26b	Hot Mix Asphalt, Base, 25mm, 10.5" thick	911	LF	$ 135.00	$ 122,985.00
26c	Hot Mix Asphalt Surface, 9.5mm	8,923	LF	$ 45.00	$ 401,535.00
26d	Asphalt Drive Restoration	224	Sys	$ 200.00	$ 44,800.00
27a	Concrete Sidewalk Restoration	175	Sys	$ 130.00	$ 22,750.00
27b	Concrete / Brick Paver Restoration	8	Sys	$ 200.00	$ 1,600.00

EVANSVILLE WATER AND SEWER UTILITY
W11095 - LODGE AVENUE WATER MAIN REPLACEMENT PROJECT
90% DESIGN - APRIL 18, 2018
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	BID PRICE
27c	6" Concrete Curb and/or Concrete Curb and Gutter Restoration	275	LF	$ 75.00	$ 20,625.00
28	Removal of Conflicting Retired Gas Main (Undistributed Quantity)	300	LF	$ 14.00	$ 4,200.00
29	Sanitary Sewer Lateral Adjustment (Undistributed Quantity)	400	LF	$ 165.00	$ 66,000.00
30	Replacement Tree, Undistributed	1	Each	$ 750.00	$ 750.00
31	Mobilization / Demobilization	1	L Sum	$ 277,700.00	$ 277,700.00
32	Clearing and Grubbing	1	L Sum	$ 95,000.00	$ 95,000.00
33	Erosion Control Devices	1	L Sum	$ 36,000.00	$ 36,000.00
34	Construction Engineering	1	L Sum	$ 45,000.00	$ 45,000.00
35	Maintenance of Traffic	1	L Sum	$ 450,000.00	$ 450,000.00
36	Restoration, Grading, & Seeding	1	L Sum	$ 80,000.00	$ 80,000.00
37	Liquidated Damages		Day	$ 1,000.00	$ -
38	Pavement Markings	1	L Sum	$ 44,000.00	$ 44,000.00
39	Traffic Control Devices, Permanent	1	L Sum	$ 12,000.00	$ 12,000.00
				Total	**$ 5,831,358.00**

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ENGINEER'S OPINION OF PROBABLE COSTS - FINAL
VANDERBURGH NEIGHBORHOOD PHASE II WATER LINE REPLACEMENT
EVANSVILLE WATER AND SEWER UTILITY
EVANSVILLE, INDIANA

ITEM NUMBER	ITEM DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED COST
I. Estimated Construction Costs					
1	6" C151 Ductile Iron Water Main (Open Cut)	LF	15	$120	$1,800
2	4" C900 Water Main (Horizontal Directional Drilling)	LF	450	$130	$58,500
3	8" C900 Water Main (Horizontal Directional Drilling)	LF	2,330	$150	$349,500
4	4" MJ Gate Valve and Box	EACH	2	$1,800	$3,600
5	8" MJ Gate Valve and Box	EACH	5	$2,000	$10,000
6	8" MJ Tee	EACH	2	$1,000	$2,000
7	4" MJ 45° Bend	EACH	1	$600	$600
8	8" MJ 45° Bend	EACH	4	$700	$2,800
9	8" MJ 22.5° Bend	EACH	1	$600	$600
10	16" x 8" Tapping Sleeve, Tap Valve & Box	EACH	1	$20,000	$20,000
11	8" MH Plug	EACH	1	$400	$400
12	8" X 4" MJ Reducer	EACH	2	$500	$1,000
13	8" X 6" MJ Reducer	EACH	1	$600	$600
14	Fire Hydrant Assembly with Hydrant Valve	EACH	3	$6,500	$19,500
15	Blow-Off Assembly, Temporary	EACH	3	$1,000	$3,000
16	3/4" Chlorination Tap	EACH	3	$800	$2,400
17	3/4" or 1" Water Service Relocation, Trenchless	EACH	33	$2,100	$69,300
18	3/4" or 1" Water Service Relocation, Open Cut	EACH	22	$1,600	$35,200
19	Water Meter Relocation	EACH	15	$1,200	$18,000
20	Concrete Plugs for Main Abandonment	EACH	2	$1,000	$2,000
21	Valve Box Removal	EACH	6	$150	$900
22	Asphalt Pavement Resoration	SY	26	$400	$10,400
23	Mobilzation / Demobilization	LS	1	$12,000	$12,000
24	Clearing & Grubbing	LS	1	$1,200	$1,200
25	Erosion Control Devices	LS	1	$2,500	$2,500
26	Construction Engineering	LS	1	$8,000	$8,000
27	Maintenance of Traffic	LS	1	$12,000	$12,000
28	Restoration, Grading, & Seeding	LS	1	$5,000	$5,000
29	Liquidated Damages	LS	0	$1,000	$0
				Total Estimated Construction Costs	$646,000

Notes:

In providing an opinion of probable cost, Wessler Engineering has no control over costs of labor, equipment and materials, or other contractor's methods of pricing. Wessler makes no warranty, expressed, or implied as to the accuracy of such cost opinions as compared to bids or actual costs. Amounts are rounded.

CHA

90% DRAFT

ENGINEER'S OPINION OF PROBABLE COST

Evansville Water and Sewer Utility, Evansville IN

Vanderburgh Neighborhood Waterline Replacement

April 21, 2015

EWSU PROJECT No. W-10942NC

REF NO	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	ITEM TOTAL AMOUNT
1	Mobilization / Demobilization (3% max of project total)	LS	1	$ 19,000.00	$ 19,000.00
2	Maintenance of Traffic	LS	1	$ 12,700.00	$ 12,700.00
3	Construction Layout and Field Engineering	LS	1	$ 6,400.00	$ 6,400.00
4	Temporary Erosion and Sediment Controls	LS	1	$ 3,500.00	$ 3,500.00
5	Pavement Removal/Milling	SY	620	$ 3.50	$ 2,170.00
6	6-inch C-900 PVC Water Main	LF	721	$ 75.00	$ 54,075.00
7	8-inch C-900 PVC Water Main	LF	5544	$ 80.00	$ 443,520.00
8	3/4" Water Service	EA	78	$ 250.00	$ 19,500.00
9	Gate Valves	EA	8	$ 2,500.00	$ 20,000.00
10	Connection to Existing Waterline	EA	4	$ 3,500.00	$ 14,000.00
11	Tapping Sleeve, Valve and Box, Stainless Steel	EA	2	$ 8,000.00	$ 16,000.00
12	Hydrant Assembly	EA	7	$ 5,000.00	$ 35,000.00
13	Asphalt Pavement Replacement	TON	240	$ 70.00	$ 16,800.00
14	Stone Roadway Replacement	TON	500	$ 15.00	$ 7,500.00

SUB-TOTAL COST $:	$	670,165.00
CONTINGENCY: 15%	$	100,524.75
ESTIMATED TOTAL CONSTRUCTION COST $:	$	770,689.75
ESTIMATED TOTAL CONSTRUCTION BUDGET $:	$	771,000.00

FINAL ESTIMATE OF PROBABLE CONSTRUCTION COST
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
GREEN RIVER ROAD PHASE VI & VII WATER RELOCATION, PROJECT NO. W11108 NC

Date: January 26, 2018
Prepared By: Ryan J. Mayer

Itemized Base Bid		Engineer's Estimate			
Item No.	Description	Quantity	Unit	Unit Price	Total
1	12" PVC C-900 Pipe	9302	LF	$ 115.00	$ 1,069,730.00
2	12" PVC C-900 RJ Pipe, Trenchless	243	LF	$ 100.00	$ 24,300.00
3	12" PVC C-900 RJ Pipe	59	LF	$ 130.00	$ 7,670.00
4	12" Ductile Iron Pipe	220	LF	$ 250.00	$ 55,000.00
5	8" PVC C-900 Pipe	224	LF	$ 90.00	$ 20,160.00
6	Water Main, Trenchless Casing Installation w/ Carrier	136	LF	$ 700.00	$ 95,200.00
7	12" Gate Valve	25	EA	$ 3,000.00	$ 75,000.00
8	8" Gate Valve	5	EA	$ 1,700.00	$ 8,500.00
9	12" Tapping Valve	1	EA	$ 3,200.00	$ 3,200.00
10	12"x12" Tapping Sleeve	1	EA	$ 5,700.00	$ 5,700.00
11	12"x12" MJ Tee	3	EA	$ 1,000.00	$ 3,000.00
12	12"x8" MJ Tee	4	EA	$ 825.00	$ 3,300.00
13	12"x6" MJ Tee	23	EA	$ 800.00	$ 18,400.00
14	8"x6" MJ Tee	1	EA	$ 550.00	$ 550.00
15	12" 45° MJ Bend	29	EA	$ 850.00	$ 24,650.00
16	8" 45° MJ Bend	4	EA	$ 500.00	$ 2,000.00
17	12" 22.5° MJ Bend	8	EA	$ 900.00	$ 7,200.00
18	8" 22.5° MJ Bend	4	EA	$ 550.00	$ 2,200.00
19	12" 11.25° MJ Bend	7	EA	$ 900.00	$ 6,300.00
20	8" MJ Plug	1	EA	$ 400.00	$ 400.00
21	Fire Hydrant Assembly w/ 6" Hydrant Valve	22	EA	$ 5,500.00	$ 121,000.00
22	Air Relief Assembly	1	EA	$ 4,800.00	$ 4,800.00
23	Stream Crossing Leakage & Sampling Structure	1	EA	$ 5,000.00	$ 5,000.00
24	2" Blow-off Assembly, Temporary, Undistributed	12	EA	$ 1,000.00	$ 12,000.00
25	3/4" Chlorination Tap, Undistributed	8	EA	$ 800.00	$ 6,400.00
26	3/4" or 1" Water Service Relocation - Open-Cut	21	EA	$ 2,000.00	$ 42,000.00
27	3/4" or 1" Water Service Relocation - Trenchless	24	EA	$ 2,200.00	$ 52,800.00
28	2" Water Service & Meter Relocation	2	EA	$ 6,000.00	$ 12,000.00
29	6" Fire Protection Service Relocation	1	LS	$ 19,730.00	$ 19,730.00
30	Water Meter Relocation	32	EA	$ 1,600.00	$ 51,200.00
31	Hydrant Removal	8	EA	$ 1,000.00	$ 8,000.00
32	Valve Box Removal	22	EA	$ 250.00	$ 5,500.00
33	Concrete Plugs for Main Abandonment	1	LS	$ 9,000.00	$ 9,000.00
34	Flowable Fill for Main/Casing Abandonment	57	CY	$ 250.00	$ 14,250.00
35	Temporary Pavement Repair, HMA Base, 25mm	8720	LF	$ 40.00	$ 348,800.00
36	Hydro Excavation for Existing Railroad Casing	8	HR	$ 400.00	$ 3,200.00
37	Railroad Insurance Requirements	1	LS	$ 1,500.00	$ 1,500.00
38	Restoration, Grading & Seeding	1	LS	$ 20,400.00	$ 20,400.00
39	Clearing & Grubbing	1	LS	$ 64,490.00	$ 64,490.00
40	Construction Engineering	1	LS	$ 43,000.00	$ 43,000.00
41	Erosion Control Devices	1	LS	$ 32,250.00	$ 32,250.00
42	Mobilization/Demobilization	1	LS	$ 107,490.00	$ 107,490.00
43	Maintenance of Traffic	1	LS	$ 75,240.00	$ 75,240.00
		OVERALL PROJECT TOTAL =			$ 2,492,510.00

HNTB	OPINION OF PROBABLE CONSTRUCTION COST			
EWSU PROJECT NO.: W10960	Prepared by:	SAL	Date:	1/11/2018
PROJECT NAME: **WEST MILL ROAD AND MOHR ROAD WATER MAIN REPLACEMENT**	Checked by:	JAH	Date:	1/11/2018
PROJECT DESIGNER.: HNTB Corporation	Checked by:		Date:	

#	Description	QUANTITY	UNIT	UNIT PRICE	TOTAL	COMMENTS
1	12" PVC C-900 Water Main (Open Cut)	2,583	L.F.	$ 200	$ 516,600	
2	12" PVC C-900 Water Main (Jack and Bore)	65	L.F.	$ 800	$ 52,000	
3	12" Restrained Joint PVC Water Main (Horizontal Directionally Drilled)	830	L.F.	$ 325	$ 269,750	
4	Casing Pipe (Open Cut)	160	L.F.	$ 300	$ 48,000	
5	12" Gate Valve	6	EA.	$ 4,000	$ 24,000	
6	12"x12" MJ Tee	1	EA.	$ 1,000	$ 1,000	
7	12"x6" MJ Tee	6	EA.	$ 800	$ 4,800	
8	12" MJ 45° Bend	4	EA.	$ 900	$ 3,600	
9	Fire Hydrant, Gate Valve, Box & Connection	6	EA.	$ 4,000	$ 24,000	
10	Blow-off Assembly, Permanent	1	EA.	$ 6,000	$ 6,000	
11	Blow-off Assembly, Temporary	6	EA.	$ 1,000	$ 6,000	
12	3/4" Chlorination Tap	6	EA.	$ 600	$ 3,600	
13	Type 1 Service Connections	56	EA.	$ 2,000	$ 112,000	
14	Type 2 Service Connections	5	EA.	$ 7,000	$ 35,000	
15	Type 3 Service Connections	1	EA.	$ 8,000	$ 8,000	
16	Water Meter Relocation (Undistributed)	2	EA.	$ 900	$ 1,800	
17	Abandon and Grout Fill Existing Casing Pipe	60	L.F.	$ 30	$ 1,800	
18	Compacted Aggregate, No. 53s	412	L.F.	$ 20	$ 8,240	
19	Hot Mix Asphalt, Base 25mm	412	L.F.	$ 60	$ 24,720	
20	Hot Mix Asphalt, Surface 9.5mm	412	L.F.	$ 60	$ 24,720	
21	Concrete Pavement Restoration	40	S.Y.	$ 100	$ 4,000	
22	Gravel Shoulder & Drive Restoration	10	S.Y.	$ 20	$ 200	
Sub-Total					$ 1,179,830	
23	Clearing & Grubbing	1	L.S.	$ 6,000	$ 6,000	
24	Restoration, Grading, and Seeding	1	L.S.	$ 18,000	$ 18,000	
25	Construction Engineering	1	L.S.	$ 35,000	$ 35,000	
26	Erosion Control Devices	1	L.S.	$ 12,000	$ 12,000	
27	Mobilization, Demobilization (Maximum 5% of Bid Amount)	1	L.S.	$ 60,000	$ 60,000	
Sub-Total					$ 1,310,830	
Construction Contingencies (5%)					$ 65,500	
Estimated Construction Costs					**$ 1,376,000**	

NOTE ! This estimate represents our judgment as professionals familiar with the construction industry.
We cannot and do not guarantee that bids will not vary from this estimate.

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Mount Auburn Road Water Main Replacement

Tabulation of Bids Received: June 12, 2018
Prepared By: J. Cris Cottom

	CONTRACTORS:			Engineer's Estimate		BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630		Delg Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712		Miller Pipeline 8850 Crawfordsville Rd Indianapolis, IN 46234		Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612			
	Form No. 96 w/ Non-Collusion Affidavit			N/A		✓		✓				✓		✓			
	Bid Bond			N/A		✓		✓				✓		✓			
	Acknowledgement of Addenda Received (1)			N/A		✓		✓				✓		✓			
	E-Verify			N/A		✓		✓				✓		✓			
	MBE/WBE			N/A		✓		✓				✓		✓			
	Drug Testing Policy			N/A		✓		✓				✓		✓			
	Health & Safety Program			N/A		✓		✓				-		✓			
	Financial Statement			N/A		✓		✓				✓		✓			
	Responsible Bidding Ordinance (EMC 3.95.040)			N/A		✓		✓				✓		✓			
Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
	Base Bid																
1	Mobilization/Demobilization	1	LS		$ -	$ 23,000.00	$ 23,000.00	$ 29,000.00	$ 29,000.00		$ -	$ 30,000.00	$ 30,000.00	$ 24,100.00	$ 24,100.00		$ -
2	Construction Engineering	1	LS		$ -	$ 3,500.00	$ 3,500.00	$ 21,500.00	$ 21,500.00		$ -	$ 45,000.00	$ 45,000.00	$ 9,000.00	$ 9,000.00		$ -
3	Erosion Control Devices	1	LS		$ -	$ 8,000.00	$ 8,000.00	$ 5,500.00	$ 5,500.00		$ -	$ 15,000.00	$ 15,000.00	$ 2,500.00	$ 2,500.00		$ -
4	Maintenance of Traffic	1	LS		$ -	$ 14,000.00	$ 14,000.00	$ 32,000.00	$ 32,000.00		$ -	$ 18,000.00	$ 18,000.00	$ 4,000.00	$ 4,000.00		$ -
5	4" C-900 Open Cut	20	LF		$ -	$ 54.00	$ 1,080.00	$ 171.00	$ 3,420.00		$ -	$ 125.00	$ 2,500.00	$ 167.00	$ 3,340.00		$ -
6	8" C-900 Open Cut	2430	LF		$ -	$ 60.00	$ 145,800.00	$ 92.00	$ 223,560.00		$ -	$ 82.00	$ 199,260.00	$ 101.00	$ 245,430.00		$ -
7	12" Tapping Sleeve and 8" Tapping Valve	1	EA		$ -	$ 5,500.00	$ 5,500.00	$ 8,850.00	$ 8,850.00		$ -	$ 6,200.00	$ 6,200.00	$ 5,900.00	$ 5,900.00		$ -
8	Fire Hydrant Assembly w/ valve	6	EA		$ -	$ 8,450.00	$ 50,700.00	$ 6,075.00	$ 36,450.00		$ -	$ 6,000.00	$ 36,000.00	$ 5,800.00	$ 34,800.00		$ -
9	Hydrant Removal	3	EA		$ -	$ 400.00	$ 1,200.00	$ 932.00	$ 2,796.00		$ -	$ 500.00	$ 1,500.00	$ 700.00	$ 2,100.00		$ -
10	4" DIMJ Gate Valve w/ Box	2	EA		$ -	$ 2,200.00	$ 4,400.00	$ 1,355.00	$ 2,710.00		$ -	$ 900.00	$ 1,800.00	$ 1,200.00	$ 2,400.00		$ -
11	8" DIMJ Gate Valve w/ Box	6	EA		$ -	$ 2,750.00	$ 16,500.00	$ 1,915.00	$ 11,490.00		$ -	$ 1,050.00	$ 6,300.00	$ 1,700.00	$ 10,200.00		$ -
12	Valve Box Removal	4	EA		$ -	$ 100.00	$ 400.00	$ 170.00	$ 680.00		$ -	$ 150.00	$ 600.00	$ 200.00	$ 800.00		$ -
13	4" MJ Plug	1	EA		$ -	$ 300.00	$ 300.00	$ 145.00	$ 145.00		$ -	$ 50.00	$ 50.00	$ 200.00	$ 200.00		$ -
14	8 x 4 MJ Tee w/ restraints	2	EA		$ -	$ 875.00	$ 1,750.00	$ 550.00	$ 1,100.00		$ -	$ 150.00	$ 300.00	$ 670.00	$ 1,340.00		$ -
15	8 x 6 MJ Tee w/ restraints	6	EA		$ -	$ 900.00	$ 5,400.00	$ 560.00	$ 3,360.00		$ -	$ 220.00	$ 1,320.00	$ 730.00	$ 4,380.00		$ -
16	8 x 8 MJ Tee w/ restraints	1	EA		$ -	$ 950.00	$ 950.00	$ 580.00	$ 580.00		$ -	$ 400.00	$ 400.00	$ 800.00	$ 800.00		$ -
17	8" MJ 11.25 deg Bend w/ restraints	1	EA		$ -	$ 600.00	$ 600.00	$ 455.00	$ 455.00		$ -	$ 230.00	$ 230.00	$ 660.00	$ 660.00		$ -
18	8" MJ 22.5 deg Bend w/ restraints	1	EA		$ -	$ 620.00	$ 620.00	$ 455.00	$ 455.00		$ -	$ 250.00	$ 250.00	$ 650.00	$ 650.00		$ -
19	4" MJ 45 deg Bend w/ restraints	2	EA		$ -	$ 540.00	$ 1,080.00	$ 285.00	$ 570.00		$ -	$ 130.00	$ 260.00	$ 500.00	$ 1,000.00		$ -
20	8" MJ 45 deg Bend w/ restraints	6	EA		$ -	$ 640.00	$ 3,840.00	$ 455.00	$ 2,730.00		$ -	$ 300.00	$ 1,800.00	$ 660.00	$ 3,960.00		$ -
21	Air Relief Assembly	3	EA		$ -	$ 4,500.00	$ 13,500.00	$ 5,425.00	$ 16,275.00		$ -	$ 4,000.00	$ 12,000.00	$ 6,200.00	$ 18,600.00		$ -
22	Blow-off assembly, temp	3	EA		$ -	$ 400.00	$ 1,200.00	$ 1,335.00	$ 4,005.00		$ -	$ 1,000.00	$ 3,000.00	$ 1,300.00	$ 3,900.00		$ -
23	3/4" chlorination tap	3	EA		$ -	$ 250.00	$ 750.00	$ 1,700.00	$ 5,100.00		$ -	$ 500.00	$ 1,500.00	$ 880.00	$ 2,640.00		$ -
24	3/4"-1" water service relocation, open cut	26	EA		$ -	$ 2,400.00	$ 62,400.00	$ 1,810.00	$ 47,060.00		$ -	$ 2,800.00	$ 72,800.00	$ 2,500.00	$ 65,000.00		$ -
25	2" water service relocation, open cut	1	EA		$ -	$ 3,800.00	$ 3,800.00	$ 2,430.00	$ 2,430.00		$ -	$ 2,200.00	$ 2,200.00	$ 3,900.00	$ 3,900.00		$ -
26	Concrete Plugs for Main Abandonment	1	LS		$ -	$ 250.00	$ 250.00	$ 6,100.00	$ 6,100.00		$ -	$ 10,000.00	$ 10,000.00	$ 2,200.00	$ 2,200.00		$ -
27	6" perforated PVC Storm Pipe	100	LF		$ -	$ 4.50	$ 450.00	$ 12.00	$ 1,200.00		$ -	$ 30.00	$ 3,000.00	$ 82.00	$ 8,200.00		$ -
28	1.5", 2", and 3" Low Pressure Sewer Offset	100	LF		$ -	$ 10.50	$ 1,050.00	$ 33.00	$ 3,300.00		$ -	$ 50.00	$ 5,000.00	$ 84.00	$ 8,400.00		$ -
29	Rock Excavation and Removal	50	CY		$ -	$ 55.00	$ 2,750.00	$ 360.00	$ 18,000.00		$ -	$ 70.00	$ 3,500.00	$ 140.00	$ 7,000.00		$ -
30	Hot Mix Asphalt, Base 25mm, 7" thick	2505	LF		$ -	$ 31.20	$ 78,156.00	$ 32.00	$ 80,160.00		$ -	$ 32.00	$ 80,160.00	$ 44.00	$ 110,220.00		$ -
31	Compacted Aggregate, #53	2505	LF		$ -	$ 3.15	$ 7,890.75		$ -		$ -	$ 6.00	$ 15,030.00	$ 8.00	$ 20,040.00		$ -
32	Restoration, Grading, Seeding	1	LS		$ -	$ 9,100.00	$ 9,100.00	$ 18,000.00	$ 18,000.00		$ -	$ 25,000.00	$ 25,000.00	$ 29,000.00	$ 29,000.00		$ -
33	Liquidated Damages	0	Day		$ -	$ 1,000.00	$ -		$ -		$ -	$ 1,000.00	$ -	$ 1,000.00	$ -		$ -
				TOTAL =	$ -	TOTAL =	$ 469,916.75	TOTAL =	$ 588,981.00	TOTAL =	$ -	TOTAL =	$ 599,960.00	TOTAL =	$ 636,660.00	TOTAL =	$ -
				Bid as Read at Bid Opening =				$599,821.00		$0.00		$599,960.00		$636,660.00			

Delg Bros. Lumber & Const. used outdated bid form

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Lodge Avenue Water Main Improvements

Tabulation of Bids Received: June 12, 2018
Prepared By: J. Cris Cottom

	CONTRACTORS:			Engineer's Estimate		BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630		Deig Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712		Miller Pipeline 8850 Crawfordsville Rd Indianapolis, IN 46234		Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612			
	Form No. 96 w/ Non-Collusion Affidavit			N/A		✓		✓		✓		✓		✓		✓	
	Bid Bond			N/A		✓		✓		✓		✓		✓		✓	
	Acknowledgement of Addenda Received (2)			N/A		✓		✓		✓		✓		✓		✓	
	E-Verify			N/A		✓		✓		✓		✓		✓		✓	
	MBE/WBE			N/A		✓		✓		✓		✓		✓		✓	
	Drug Testing Policy			N/A		✓		✓		✓		✓		✓		-	
	Health & Safety Program			N/A		✓		✓		✓		✓		✓		✓	
	Financial Statement			N/A		✓		✓		✓		✓		✓		✓	
	Responsible Bidding Ordinance (EMC 3.95.040)			N/A		✓		✓		✓		✓		✓		✓	
Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
	Base Bid																
1a	8" DIP	53	LF		$ -		$ -	$ 116.00	$ 6,148.00	$ 417.00	$ 22,101.00	$ 170.00	$ 9,010.00	$ 215.00	$ 11,395.00		$ -
1b	12" DIP	1317	LF		$ -		$ -	$ 221.00	$ 291,057.00	$ 196.00	$ 258,132.00	$ 195.00	$ 256,815.00	$ 200.00	$ 263,400.00		$ -
2b	6" C-900, DR18	142	LF		$ -		$ -	$ 104.00	$ 14,768.00	$ 360.00	$ 51,120.00	$ 115.00	$ 16,330.00	$ 180.00	$ 25,560.00		$ -
2c	8" C-900, DR18	981	LF		$ -		$ -	$ 87.00	$ 85,347.00	$ 126.00	$ 123,606.00	$ 80.00	$ 78,480.00	$ 150.00	$ 147,150.00		$ -
2d	12" C-900, DR18	5572	LF		$ -		$ -	$ 98.00	$ 546,056.00	$ 128.00	$ 713,216.00	$ 90.00	$ 501,480.00	$ 100.00	$ 557,200.00		$ -
2e	12" C-900-RJ, DR18	320	LF		$ -		$ -	$ 127.00	$ 40,640.00	$ 172.00	$ 55,040.00	$ 120.00	$ 38,400.00	$ 117.00	$ 37,440.00		$ -
3b	6" Gate Valve	13	EA		$ -		$ -	$ 1,715.00	$ 22,295.00	$ 2,200.00	$ 28,600.00	$ 1,100.00	$ 14,300.00	$ 1,120.00	$ 14,560.00		$ -
3c	8" Gate Valve	29	EA		$ -		$ -	$ 1,915.00	$ 55,535.00	$ 2,500.00	$ 72,500.00	$ 1,500.00	$ 43,500.00	$ 1,475.00	$ 42,775.00		$ -
3d	12" Gate Valve	23	EA		$ -		$ -	$ 2,935.00	$ 67,505.00	$ 3,575.00	$ 82,225.00	$ 2,600.00	$ 59,800.00	$ 2,790.00	$ 64,170.00		$ -
4a	8 x 6 MJ Tee	24	EA		$ -		$ -	$ 560.00	$ 13,440.00	$ 1,470.00	$ 35,280.00	$ 250.00	$ 6,000.00	$ 745.00	$ 17,880.00		$ -
4b	8 x 8 MJ Tee	2	EA		$ -		$ -	$ 580.00	$ 1,160.00	$ 1,550.00	$ 3,100.00	$ 315.00	$ 630.00	$ 820.00	$ 1,640.00		$ -
4d	12 x 6 MJ Tee	6	EA		$ -		$ -	$ 820.00	$ 4,920.00	$ 1,890.00	$ 11,340.00	$ 500.00	$ 3,000.00	$ 1,200.00	$ 7,200.00		$ -
4e	12 x 8 MJ Tee	21	EA		$ -		$ -	$ 840.00	$ 17,640.00	$ 1,740.00	$ 36,540.00	$ 500.00	$ 10,500.00	$ 1,200.00	$ 25,200.00		$ -
4f	12 x 12 MJ Tee	4	EA		$ -		$ -	$ 880.00	$ 3,520.00	$ 1,935.00	$ 7,740.00	$ 725.00	$ 2,900.00	$ 1,500.00	$ 6,000.00		$ -
5b	6" MJ 45 deg bend	22	EA		$ -		$ -	$ 360.00	$ 7,920.00	$ 1,430.00	$ 31,460.00	$ 175.00	$ 3,850.00	$ 500.00	$ 11,000.00		$ -
5c	8" MJ 45 deg Bend	12	EA		$ -		$ -	$ 440.00	$ 5,280.00	$ 1,485.00	$ 17,820.00	$ 250.00	$ 3,000.00	$ 600.00	$ 7,200.00		$ -
5d	12" MJ 45 deg Bend	63	EA		$ -		$ -	$ 670.00	$ 42,210.00	$ 1,730.00	$ 108,990.00	$ 500.00	$ 31,500.00	$ 1,000.00	$ 63,000.00		$ -
6a	6" MJ 22.5 deg bend	6	EA		$ -		$ -	$ 360.00	$ 2,160.00	$ 1,410.00	$ 8,460.00	$ 175.00	$ 1,050.00	$ 500.00	$ 3,000.00		$ -
6b	8" MJ 22.5 deg Bend	8	EA		$ -		$ -	$ 440.00	$ 3,520.00	$ 1,480.00	$ 11,840.00	$ 240.00	$ 1,920.00	$ 600.00	$ 4,800.00		$ -
6c	12" MJ 22.5 deg Bend	10	EA		$ -		$ -	$ 670.00	$ 6,700.00	$ 1,680.00	$ 16,800.00	$ 450.00	$ 4,500.00	$ 850.00	$ 8,500.00		$ -
7a	6" MJ 11.25 deg bend	1	EA		$ -		$ -	$ 370.00	$ 370.00	$ 1,415.00	$ 1,415.00	$ 175.00	$ 175.00	$ 500.00	$ 500.00		$ -
7b	8" MJ 11.25 deg Bend	8	EA		$ -		$ -	$ 440.00	$ 3,520.00	$ 1,475.00	$ 11,800.00	$ 235.00	$ 1,880.00	$ 600.00	$ 4,800.00		$ -
7c	12" MJ 11.25 deg Bend	8	EA		$ -		$ -	$ 670.00	$ 5,360.00	$ 1,670.00	$ 13,360.00	$ 440.00	$ 3,520.00	$ 850.00	$ 6,800.00		$ -
8a	8 x 6 MJ Reducer	1	EA		$ -		$ -	$ 280.00	$ 280.00	$ 1,440.00	$ 1,440.00	$ 200.00	$ 200.00	$ 620.00	$ 620.00		$ -
8b	12 x 8 MJ Reducer	5	EA		$ -		$ -	$ 410.00	$ 2,050.00	$ 1,560.00	$ 7,800.00	$ 330.00	$ 1,650.00	$ 840.00	$ 4,200.00		$ -
9b	12 x 12 Tapping Sleeve & Valve	1	EA		$ -		$ -	$ 8,475.00	$ 8,475.00	$ 11,700.00	$ 11,700.00	$ 7,500.00	$ 7,500.00	$ 6,800.00	$ 6,800.00		$ -
10	12" Expansion Coupling	1	EA		$ -		$ -	$ 675.00	$ 675.00	$ 1,700.00	$ 1,700.00	$ 600.00	$ 600.00	$ 1,300.00	$ 1,300.00		$ -
11a	8" MJ Plug	19	EA		$ -		$ -	$ 350.00	$ 6,650.00	$ 1,325.00	$ 25,175.00	$ 110.00	$ 2,090.00	$ 535.00	$ 10,165.00		$ -
11b	12" MJ Plug	2	EA		$ -		$ -	$ 450.00	$ 900.00	$ 1,625.00	$ 3,250.00	$ 420.00	$ 840.00	$ 930.00	$ 1,860.00		$ -
12	Fire Hydrant Assembly w/ valve	18	EA		$ -		$ -	$ 6,610.00	$ 118,980.00	$ 7,875.00	$ 141,750.00	$ 6,100.00	$ 109,800.00	$ 5,900.00	$ 106,200.00		$ -
13	Air Relief Assembly	5	EA		$ -		$ -	$ 5,560.00	$ 27,800.00	$ 8,540.00	$ 42,700.00	$ 4,000.00	$ 20,000.00	$ 7,200.00	$ 36,000.00		$ -
14	Blow-off assembly, temp	15	EA		$ -		$ -	$ 1,335.00	$ 20,025.00	$ 3,985.00	$ 59,775.00	$ 600.00	$ 9,000.00	$ 1,500.00	$ 22,500.00		$ -
15	3/4" chlorination tap	9	EA		$ -		$ -	$ 1,700.00	$ 15,300.00	$ 3,785.00	$ 34,065.00	$ 600.00	$ 5,400.00	$ 800.00	$ 7,200.00		$ -
16a	3/4"-1" water service relocation, trenchless	109	EA		$ -		$ -	$ 1,725.00	$ 188,025.00	$ 3,430.00	$ 373,870.00	$ 2,000.00	$ 218,000.00	$ 2,250.00	$ 245,250.00		$ -
16b	3/4"-1" water service relocation, open cut	3	EA		$ -		$ -	$ 1,625.00	$ 4,875.00	$ 4,710.00	$ 14,130.00	$ 2,800.00	$ 8,400.00	$ 2,100.00	$ 6,300.00		$ -
16c	2" water service relocaiton, trenchless	1	EA		$ -		$ -	$ 5,075.00	$ 5,075.00	$ 13,885.00	$ 13,885.00	$ 4,000.00	$ 4,000.00	$ 3,700.00	$ 3,700.00		$ -
16d	2" water service relocation, open cut	1	EA		$ -		$ -	$ 3,315.00	$ 3,315.00	$ 13,885.00	$ 13,885.00	$ 3,500.00	$ 3,500.00	$ 2,800.00	$ 2,800.00		$ -
16e	4" water service relocation, open cut	1	EA		$ -		$ -	$ 3,615.00	$ 3,615.00	$ 13,940.00	$ 13,940.00	$ 4,800.00	$ 4,800.00	$ 3,350.00	$ 3,350.00		$ -
16f	6" fire service relocation, open cut	2	EA		$ -		$ -	$ 17,260.00	$ 34,520.00	$ 22,600.00	$ 45,200.00	$ 4,300.00	$ 8,600.00	$ 7,300.00	$ 14,600.00		$ -
17a	3/4"-1" water meter relocation	31	EA		$ -		$ -	$ 1,285.00	$ 39,835.00	$ 4,000.00	$ 124,000.00	$ 2,200.00	$ 68,200.00	$ 1,360.00	$ 42,160.00		$ -
17b	2" water meter relocation	1	EA		$ -		$ -	$ 4,715.00	$ 4,715.00	$ 10,130.00	$ 10,130.00	$ 6,500.00	$ 6,500.00	$ 4,700.00	$ 4,700.00		$ -
17c	4" water meter relocation	1	EA		$ -		$ -	$ 24,175.00	$ 24,175.00	$ 30,640.00	$ 30,640.00	$ 16,000.00	$ 16,000.00	$ 24,000.00	$ 24,000.00		$ -
18b	6" Line Stop	5	EA		$ -		$ -	$ 5,815.00	$ 29,075.00	$ 9,560.00	$ 47,800.00	$ 4,500.00	$ 22,500.00	$ 6,500.00	$ 32,500.00		$ -
18c	8" Line Stop	7	EA		$ -		$ -	$ 7,315.00	$ 51,205.00	$ 8,745.00	$ 61,215.00	$ 4,800.00	$ 33,600.00	$ 6,800.00	$ 47,600.00		$ -
18d	12" Line Stop	1	EA		$ -		$ -	$ 9,915.00	$ 9,915.00	$ 15,000.00	$ 15,000.00	$ 7,500.00	$ 7,500.00	$ 9,400.00	$ 9,400.00		$ -
19b	Plugs for Main Abandonment	1	LS					$ 18,500.00	$ 18,500.00	$ 12,150.00	$ 12,150.00	$ 12,500.00	$ 12,500.00	$ 23,500.00	$ 23,500.00		
20a	Hydrant Removal	14	EA					$ 955.00	$ 13,370.00	$ 2,770.00	$ 38,780.00	$ 1,350.00	$ 18,900.00	$ 665.00	$ 9,310.00		
20b	Valve Box Removal	1	LS					$ 3,700.00	$ 3,700.00	$ 21,250.00	$ 21,250.00	$ 4,500.00	$ 4,500.00	$ 650.00	$ 650.00		
21	Removal of unsuitable material	1860	LF					$ 2.00	$ 3,720.00	$ 42.25	$ 78,585.00	$ 25.00	$ 46,500.00	$ 7.00	$ 13,020.00		
22a	10" pressure rated pipe, for storm/sanitary serws	110	LF					$ 126.00	$ 13,860.00	$ 228.50	$ 25,135.00	$ 200.00	$ 22,000.00	$ 150.00	$ 16,500.00		
22b	12" pressure rated pipe for Storm/Sanitary Sewers	80	LF					$ 156.00	$ 12,480.00	$ 215.00	$ 17,200.00	$ 230.00	$ 18,400.00	$ 150.00	$ 12,000.00		
23	Compacted Aggregate, #53	7111	LF					$ 9.00	$ 63,999.00	$ 8.20	$ 58,310.20	$ 15.00	$ 106,665.00	$ 13.00	$ 92,443.00		
24a	Hot Mix Asphalt Base, 25mm, 5.5" thick	6861	LF					$ 37.00	$ 253,857.00	$ 43.50	$ 298,453.50	$ 30.00	$ 205,830.00	$ 24.60	$ 168,780.60		
24b	Hot Mix Asphalt Base, 25mm, 10.5" thick	241	LF					$ 314.00	$ 75,674.00	$ 395.00	$ 95,195.00	$ 90.00	$ 21,690.00	$ 74.40	$ 17,930.40		
24c	Hot Mix Asphalt Surface, 9.5 mm	4366	LF					$ 27.00	$ 117,882.00	$ 30.50	$ 133,163.00	$ 18.00	$ 78,588.00	$ 12.50	$ 54,575.00		
24d	Asphalt Drive Restoration	149	SY					$ 229.00	$ 34,121.00	$ 290.00	$ 43,210.00	$ 60.00	$ 8,940.00	$ 135.00	$ 20,115.00		
25a	Concrete Sidewalk Restoration	143	SY					$ 89.00	$ 12,727.00	$ 54.00	$ 7,722.00	$ 90.00	$ 12,870.00	$ 180.00	$ 25,740.00		
25b	Concrete/Brick Paver restoration	8	SY					$ 330.00	$ 2,640.00	$ 1,200.00	$ 9,600.00	$ 80.00	$ 640.00	$ 220.00	$ 1,760.00		
25c	6" Conc Curb and/or Gutter Restoration	240	LF					$ 43.00	$ 10,320.00	$ 52.50	$ 12,600.00	$ 45.00	$ 10,800.00	$ 80.00	$ 19,200.00		
26	Removal of abandoned gas main	400	LF					$ 8.00	$ 3,200.00	$ 62.50	$ 25,000.00	$ 10.00	$ 4,000.00	$ 30.00	$ 12,000.00		
27	Sanitary Sewer Lateral Adjustment	800	LF					$ 91.00	$ 72,800.00	$ 128.50	$ 102,800.00	$ 60.00	$ 48,000.00	$ 184.00	$ 147,200.00		
28	Tree Removal	2	EA					$ 1,350.00	$ 2,700.00	$ 1,875.00	$ 3,750.00	$ 1,500.00	$ 3,000.00	$ 1,250.00	$ 2,500.00		
29	Mobilization/Demobilization	1	LS					$ 150,000.00	$ 150,000.00	$ 194,500.00	$ 194,500.00	$ 145,000.00	$ 145,000.00	$ 150,001.00	$ 150,001.00		
30	Clearing and Grubbing	1	LS					$ 14,000.00	$ 14,000.00	$ 12,500.00	$ 12,500.00	$ 100,000.00	$ 100,000.00	$ 4,000.00	$ 4,000.00		
31	Erosion Control Devices	1	LS					$ 16,000.00	$ 16,000.00	$ 9,375.00	$ 9,375.00	$ 20,000.00	$ 20,000.00	$ 15,000.00	$ 15,000.00		
32	Construction Engineering	1	LS					$ 34,000.00	$ 34,000.00	$ 18,225.00	$ 18,225.00	$ 50,000.00	$ 50,000.00	$ 20,000.00	$ 20,000.00		
33	Maintenance of Traffic	1	LS					$ 83,000.00	$ 83,000.00	$ 158,200.00	$ 158,200.00	$ 203,000.00	$ 203,000.00	$ 95,000.00	$ 95,000.00		
34	Restoration, Grading, Seeding	1	LS					$ 31,000.00	$ 31,000.00	$ 15,950.00	$ 15,950.00	$ 18,000.00	$ 18,000.00	$ 30,000.00	$ 30,000.00		
35	Liquidated Damages		Day					$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	$ -		
36	Pavement Markings	1	LS					$ 10,600.00	$ 10,600.00	$ 31,250.00	$ 31,250.00	$ 10,000.00	$ 10,000.00	$ 20,000.00	$ 20,000.00		
37	Traffic Control Devices, permanent	1	LS					$ 12,850.00	$ 12,850.00	$ 8,750.00	$ 8,750.00	$ 7,500.00	$ 7,500.00	$ 10,000.00	$ 10,000.00		
38	Sanitary Cleanout	20	EA					$ 1,625.00	$ 32,500.00	$ 2,575.00	$ 51,500.00	$ 1,250.00	$ 25,000.00	$ 785.00	$ 15,700.00		
39	Service Lateral Relocaiton with Cleanout	40	EA		$ -		$ -	$ 2,270.00	$ 90,800.00	$ 4,260.00	$ 170,400.00	$ 1,500.00	$ 60,000.00	$ 3,700.00	$ 148,000.00		$ -

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Lodge Avenue Water Main Improvements

Tabulation of Bids Received: June 12, 2018
Prepared By: J. Cris Cottom

CONTRACTORS:	Engineer's Estimate	BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630	Deig Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712	Miller Pipeline 8850 Crawfordsville Rd Indianapolis, IN 46234	Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630	Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612	
Form No. 96 w/ Non-Collusion Affidavit	N/A	✓	✓	✓	✓	✓	✓
Bid Bond	N/A	✓	✓	✓	✓	✓	✓
Acknowledgement of Addenda Received (2)	N/A	✓	✓	✓	✓	✓	✓
E-Verify	N/A	✓	✓	✓	✓	✓	✓
MBE/WBE	N/A	✓	✓	✓	✓	✓	✓
Drug Testing Policy	N/A	✓	✓	✓	✓	✓	✓
Health & Safety Program	N/A	✓	✓	✓	✓	✓	-
Financial Statement	N/A	✓	✓	✓	✓	✓	✓
Responsible Bidding Ordinance (EMC 3.95.040)	N/A	✓	✓	✓	✓	✓	✓

Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
				TOTAL =	$ -	TOTAL =	$ -	TOTAL =	$ 3,036,851.00	TOTAL =	$ 4,468,588.70	TOTAL =	$ 2,913,543.00	TOTAL =	$ 3,109,300.00	TOTAL =	$ -
				Bid as Read at Bid Opening =				$3,036,851.00		$4,468,588.70		$2,913,543.00		$3,109,300.00			

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Lodge Avenue Water Main Improvements

Tabulation of Bids Received: June 12, 2018
Prepared By: J. Cris Cottom

				CONTRACTORS:		BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630		Deig Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712		Miller Pipeline 8850 Crawfordsville Rd Indianapolis, IN 46234		Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612			
				Form No. 96 w/ Non-Collusion Affidavit	N/A	✓		✓		✓		✓		✓		✓	
				Bid Bond	N/A	✓		✓		✓		✓		✓		✓	
				Acknowledgement of Addenda Received (2)	N/A	✓		✓		✓		✓		✓		✓	
				E-Verify	N/A	✓		✓		✓		✓		✓		✓	
				MBE/WBE	N/A	✓		✓		✓		✓		✓		✓	
				Drug Testing Policy	N/A	✓		✓		✓		✓		✓		✓	
				Health & Safety Program	N/A	✓		✓		✓		✓		✓		-	
				Financial Statement	N/A	✓		✓		✓		✓		✓		✓	
				Responsible Bidding Ordinance (EMC 3.95.040)	N/A	✓		✓		✓		✓		✓		✓	
Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
	Alternate																
					$ -		$ -		$ -		$ -		$ -		$ -		$ -
1b	12" DIP	116	LF		$ -		$ -	$ 221.00	$ 25,636.00	$ 196.00	$ 22,736.00	$ 195.00	$ 22,620.00	$ 280.00	$ 32,480.00		$ -
2a	4" C-900, DR18	325	LF					$ 84.00	$ 27,300.00	$ 360.00	$ 117,000.00	$ 100.00	$ 32,500.00	$ 106.00	$ 34,450.00		
2b	6" C-900, DR18	11	LF		$ -		$ -	$ 104.00	$ 1,144.00	$ 360.00	$ 3,960.00	$ 115.00	$ 1,265.00	$ 180.00	$ 1,980.00		$ -
2c	8" C-900, DR18	49	LF		$ -		$ -	$ 87.00	$ 4,263.00	$ 126.00	$ 6,174.00	$ 80.00	$ 3,920.00	$ 150.00	$ 7,350.00		$ -
2d	12" C-900, DR18	1325	LF		$ -		$ -	$ 98.00	$ 129,850.00	$ 128.00	$ 169,600.00	$ 90.00	$ 119,250.00	$ 102.00	$ 135,150.00		$ -
2e	12" C-900-RJ, DR18	775	LF		$ -		$ -	$ 127.00	$ 98,425.00	$ 172.00	$ 133,300.00	$ 120.00	$ 93,000.00	$ 112.00	$ 86,800.00		$ -
3a	4" Gate Valve	1	EA		$ -			$ 1,355.00	$ 1,355.00	$ 2,100.00	$ 2,100.00	$ 900.00	$ 900.00	$ 1,000.00	$ 1,000.00		$ -
3c	8" Gate Valve	1	EA		$ -		$ -	$ 1,915.00	$ 1,915.00	$ 2,500.00	$ 2,500.00	$ 1,500.00	$ 1,500.00	$ 1,475.00	$ 1,475.00		$ -
3d	12" Gate Valve	8	EA		$ -		$ -	$ 2,935.00	$ 23,480.00	$ 3,575.00	$ 28,600.00	$ 2,600.00	$ 20,800.00	$ 2,700.00	$ 21,600.00		$ -
4a	8 x 6 MJ Tee	1	EA		$ -		$ -	$ 560.00	$ 560.00	$ 1,470.00	$ 1,470.00	$ 250.00	$ 250.00	$ 745.00	$ 745.00		$ -
4c	12 x 4 MJ Tee	1	EA		$ -		$ -	$ 810.00	$ 810.00	$ 1,890.00	$ 1,890.00	$ 500.00	$ 500.00	$ 975.00	$ 975.00		$ -
4d	12 x 6 MJ Tee	5	EA		$ -		$ -	$ 820.00	$ 4,100.00	$ 1,890.00	$ 9,450.00	$ 500.00	$ 2,500.00	$ 1,000.00	$ 5,000.00		$ -
4e	12 x 8 MJ Tee	1	EA		$ -		$ -	$ 840.00	$ 840.00	$ 1,740.00	$ 1,740.00	$ 500.00	$ 500.00	$ 1,200.00	$ 1,200.00		$ -
4f	12 x 12 MJ Tee	4	EA		$ -		$ -	$ 880.00	$ 3,520.00	$ 1,935.00	$ 7,740.00	$ 725.00	$ 2,900.00	$ 1,500.00	$ 6,000.00		$ -
5a	4" MJ 45 deg bend	4	EA		$ -		$ -	$ 310.00	$ 1,240.00	$ 1,430.00	$ 5,720.00	$ 150.00	$ 600.00	$ 450.00	$ 1,800.00		$ -
5b	6" MJ 45 deg bend	2	EA		$ -		$ -	$ 360.00	$ 720.00	$ 1,430.00	$ 2,860.00	$ 175.00	$ 350.00	$ 500.00	$ 1,000.00		$ -
5d	12" MJ 45 deg Bend	24	EA		$ -		$ -	$ 670.00	$ 16,080.00	$ 1,730.00	$ 41,520.00	$ 500.00	$ 12,000.00	$ 875.00	$ 21,000.00		$ -
6a	6" MJ 22.5 deg bend	2	EA		$ -		$ -	$ 360.00	$ 720.00	$ 1,410.00	$ 2,820.00	$ 175.00	$ 350.00	$ 500.00	$ 1,000.00		$ -
6b	8" MJ 22.5 deg Bend	2	EA		$ -		$ -	$ 440.00	$ 880.00	$ 1,480.00	$ 2,960.00	$ 250.00	$ 500.00	$ 600.00	$ 1,200.00		$ -
6c	12" MJ 22.5 deg Bend	4	EA		$ -		$ -	$ 670.00	$ 2,680.00	$ 1,680.00	$ 6,720.00	$ 500.00	$ 2,000.00	$ 850.00	$ 3,400.00		$ -
7a	6" MJ 11.25 deg bend	1	EA		$ -		$ -	$ 370.00	$ 370.00	$ 1,415.00	$ 1,415.00	$ 175.00	$ 175.00	$ 500.00	$ 500.00		$ -
7b	8" MJ 11.25 deg Bend	2	EA		$ -		$ -	$ 440.00	$ 880.00	$ 1,475.00	$ 2,950.00	$ 235.00	$ 470.00	$ 600.00	$ 1,200.00		$ -
7c	12" MJ 11.25 deg Bend	2	EA		$ -		$ -	$ 670.00	$ 1,340.00	$ 1,670.00	$ 3,340.00	$ 440.00	$ 880.00	$ 850.00	$ 1,700.00		$ -
8a	8 x 6 MJ Reducer	1	EA		$ -		$ -	$ 280.00	$ 280.00	$ 1,440.00	$ 1,440.00	$ 200.00	$ 200.00	$ 620.00	$ 620.00		$ -
8b	12 x 8 MJ Reducer	1	EA		$ -		$ -	$ 410.00	$ 410.00	$ 1,560.00	$ 1,560.00	$ 330.00	$ 330.00	$ 840.00	$ 840.00		$ -
9	6 x 4 Tapping Sleeve & Valve	1	EA		$ -		$ -	$ 4,645.00	$ 4,645.00	$ 10,000.00	$ 10,000.00	$ 4,000.00	$ 4,000.00	$ 3,900.00	$ 3,900.00		$ -
10	12" Expansion Coupling	2	EA		$ -		$ -	$ 675.00	$ 1,350.00	$ 1,700.00	$ 3,400.00	$ 600.00	$ 1,200.00	$ 1,300.00	$ 2,600.00		$ -
11a	8" MJ Plug	1	EA		$ -		$ -	$ 350.00	$ 350.00	$ 1,325.00	$ 1,325.00	$ 110.00	$ 110.00	$ 535.00	$ 535.00		$ -
11b	12" MJ Plug	2	EA		$ -		$ -	$ 450.00	$ 900.00	$ 1,625.00	$ 3,250.00	$ 420.00	$ 840.00	$ 930.00	$ 1,860.00		$ -
12	Fire Hydrant Assembly w/ valve	5	EA		$ -		$ -	$ 6,610.00	$ 33,050.00	$ 7,875.00	$ 39,375.00	$ 6,100.00	$ 30,500.00	$ 5,900.00	$ 29,500.00		$ -
13	Air Relief Assembly	1	EA		$ -		$ -	$ 5,560.00	$ 5,560.00	$ 8,540.00	$ 8,540.00	$ 4,000.00	$ 4,000.00	$ 7,200.00	$ 7,200.00		$ -
14	Blow-off assembly, temp	5	EA		$ -		$ -	$ 1,335.00	$ 6,675.00	$ 3,985.00	$ 19,925.00	$ 600.00	$ 3,000.00	$ 1,500.00	$ 7,500.00		$ -
15	3/4" chlorination tap	3	EA		$ -		$ -	$ 1,700.00	$ 5,100.00	$ 3,785.00	$ 11,355.00	$ 600.00	$ 1,800.00	$ 800.00	$ 2,400.00		$ -
16a	3/4"-1" water service relocation, trenchless	50	EA		$ -		$ -	$ 1,725.00	$ 86,250.00	$ 3,430.00	$ 171,500.00	$ 2,800.00	$ 140,000.00	$ 2,250.00	$ 112,500.00		$ -
17a	3/4"-1" water meter relocation	14	EA		$ -		$ -	$ 1,285.00	$ 17,990.00	$ 4,000.00	$ 56,000.00	$ 2,000.00	$ 28,000.00	$ 1,360.00	$ 19,040.00		$ -
18a	4" Line Stop	1	EA					$ 5,415.00	$ 5,415.00	$ 9,560.00	$ 9,560.00	$ 4,000.00	$ 4,000.00	$ 6,300.00	$ 6,300.00		
18b	6" Line Stop	1	EA					$ 5,815.00	$ 5,815.00	$ 9,560.00	$ 9,560.00	$ 4,500.00	$ 4,500.00	$ 6,500.00	$ 6,500.00		
18c	8" Line Stop	1	EA					$ 7,315.00	$ 7,315.00	$ 8,745.00	$ 8,745.00	$ 4,800.00	$ 4,800.00	$ 6,800.00	$ 6,800.00		
18d	12" Line Stop	1	EA					$ 9,915.00	$ 9,915.00	$ 15,000.00	$ 15,000.00	$ 7,500.00	$ 7,500.00	$ 9,400.00	$ 9,400.00		
19a	Abandon and Grout Fill existing main	256	LF					$ 9.00	$ 2,304.00	$ 20.00	$ 5,120.00	$ 22.00	$ 5,632.00	$ 20.00	$ 5,120.00		
19b	Plugs for Main Abandonment	1	LS					$ 7,100.00	$ 7,100.00	$ 3,000.00	$ 3,000.00	$ 4,000.00	$ 4,000.00	$ 3,000.00	$ 3,000.00		
20a	Hydrant Removal	5	EA					$ 955.00	$ 4,775.00	$ 2,770.00	$ 13,850.00	$ 1,350.00	$ 6,750.00	$ 665.00	$ 3,325.00		
20b	Valve Box Removal	1	LS					$ 1,400.00	$ 1,400.00	$ 4,000.00	$ 4,000.00	$ 4,500.00	$ 4,500.00	$ 650.00	$ 650.00		
21	Removal of unsuitable material	1015	LF					$ 2.00	$ 2,030.00	$ 42.25	$ 42,883.75	$ 25.00	$ 25,375.00	$ 7.00	$ 7,105.00		
22a	10" pressure rated pipe, for storm/sanitary sewrs	30	LF					$ 126.00	$ 3,780.00	$ 228.50	$ 6,855.00	$ 200.00	$ 6,000.00	$ 225.00	$ 6,750.00		
23	Compacted Aggregate, #53	1789	LF					$ 9.00	$ 16,101.00	$ 8.20	$ 14,669.80	$ 15.00	$ 26,835.00	$ 12.00	$ 21,468.00		
24a	Hot Mix Asphalt Base, 25mm, 5.5" thick	1151	LF					$ 76.00	$ 87,476.00	$ 80.00	$ 92,080.00	$ 30.00	$ 34,530.00	$ 26.50	$ 30,501.50		
24b	Hot Mix Asphalt Base, 25mm, 10.5" thick	638	LF					$ 138.00	$ 88,044.00	$ 140.00	$ 89,320.00	$ 90.00	$ 57,420.00	$ 47.57	$ 30,349.66		
24c	Hot Mix Asphalt Surface, 9.5 mm	1821	LF					$ 43.00	$ 78,303.00	$ 45.00	$ 81,945.00	$ 18.00	$ 32,778.00	$ 11.00	$ 20,031.00		
24e	Milling and Hot Mix Asphalt Resurfacing	600	SY					$ 44.00	$ 26,400.00	$ 46.00	$ 27,600.00	$ 60.00	$ 36,000.00	$ 52.00	$ 31,200.00		
25a	Concrete Sidewalk Restoration	11	SY					$ 89.00	$ 979.00	$ 54.00	$ 594.00	$ 90.00	$ 990.00	$ 220.00	$ 2,420.00		
25c	6" Conc Curb and/or Gutter Restoration	20	LF					$ 43.00	$ 860.00	$ 52.50	$ 1,050.00	$ 45.00	$ 900.00	$ 80.00	$ 1,600.00		
27	Sanitary Sewer Lateral Adjustment	250	LF					$ 91.00	$ 22,750.00	$ 128.50	$ 32,125.00	$ 60.00	$ 15,000.00	$ 184.00	$ 46,000.00		
29	Mobilization/Demobilization	1	LS					$ 52,000.00	$ 52,000.00	$ 60,000.00	$ 60,000.00	$ 55,000.00	$ 55,000.00	$ 40,994.84	$ 40,994.84		
30	Clearing and Grubbing	1	LS					$ 5,000.00	$ 5,000.00	$ 7,500.00	$ 7,500.00	$ 40,000.00	$ 40,000.00	$ 750.00	$ 750.00		
31	Erosion Control Devices	1	LS					$ 7,400.00	$ 7,400.00	$ 6,500.00	$ 6,500.00	$ 8,000.00	$ 8,000.00	$ 3,000.00	$ 3,000.00		
32	Construction Engineering	1	LS					$ 16,000.00	$ 16,000.00	$ 10,000.00	$ 10,000.00	$ 35,000.00	$ 35,000.00	$ 3,000.00	$ 3,000.00		
33	Maintenance of Traffic	1	LS					$ 27,000.00	$ 27,000.00	$ 50,000.00	$ 50,000.00	$ 80,000.00	$ 80,000.00	$ 23,000.00	$ 23,000.00		
34	Restoration, Grading, Seeding	1	LS					$ 12,000.00	$ 12,000.00	$ 10,000.00	$ 10,000.00	$ 12,000.00	$ 12,000.00	$ 11,000.00	$ 11,000.00		
35	Liquidated Damages		Day					$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	$ -		
36	Pavement Markings	1	LS					$ 4,700.00	$ 4,700.00	$ 10,000.00	$ 10,000.00	$ 6,000.00	$ 6,000.00	$ 4,000.00	$ 4,000.00		
38	Sanitary Cleanout	5	EA					$ 1,625.00	$ 8,125.00	$ 2,575.00	$ 12,875.00	$ 1,250.00	$ 6,250.00	$ 785.00	$ 3,925.00		
39	Service Lateral Relocaiten with Cleanout	15	EA					$ 2,270.00	$ 34,050.00	$ 4,260.00	$ 63,900.00	$ 1,500.00	$ 22,500.00	$ 3,700.00	$ 55,500.00		
					$ -		$ -		$ -		$ -		$ -		$ -		$ -
					$ -		$ -		$ -		$ -		$ -		$ -		$ -
					$ -		$ -		$ -		$ -		$ -		$ -		$ -
				TOTAL =	$ -	TOTAL =	$ -	TOTAL =	$ 1,047,705.00	TOTAL =	$ 1,594,967.55	TOTAL =	$ 1,075,970.00	TOTAL =	$ 941,190.00	TOTAL =	$ -
				Bid as Read at Bid Opening =				$4,084,556.00		$1,594,967.55		$3,989,513.00		$4,050,490.00			
						Base + Alt	$ -	Base + Alt	$ 4,084,556.00	Base + Alt	$ 6,063,556.25	Base + Alt	$ 3,989,513.00	Base + Alt	$ 4,050,490.00		

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Lodge Avenue Water Main Improvements

Tabulation of Bids Received: June 12, 2018
Prepared By: J. Cris Cottom

CONTRACTORS:				Engineer's Estimate		BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630		Delg Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712		Miller Pipeline 8850 Crawfordsville Rd Indianapolis, IN 46234		Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612			
Form No. 96 w/ Non-Collusion Affidavit				N/A		✓		✓		✓		✓		✓		✓	
Bid Bond				N/A		✓		✓		✓		✓		✓		✓	
Acknowledgement of Addenda Received (2)				N/A		✓		✓		✓		✓		✓		✓	
E-Verify				N/A		✓		✓		✓		✓		✓		✓	
MBE/WBE				N/A		✓		✓		✓		✓		✓		✓	
Drug Testing Policy				N/A		✓		✓		✓		✓		✓		✓	
Health & Safety Program				N/A		✓		✓		✓		✓		✓		-	
Financial Statement				N/A		✓		✓		✓		✓		✓		✓	
Responsible Bidding Ordinance (EMC 3.95.040)				N/A		✓		✓		✓		✓		✓		✓	
Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Vanderburgh Neighborhood Ph I, PII and Combination

Tabulation of Bids Received: May 1, 2018
Prepared By: Ryan J. Mayer

	CONTRACTORS:			Engineer's Estimate		BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630		Delg Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712		Infrastructure Systems, Inc. 260 W. Vincennes St. Orleans, IN 47452		Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612		Koberstein Contracting, Inc. 3301 W. Broadway Princeton, IN 47670	
	Form No. 96 w/ Non-Collusion Affidavit			N/A		✓		✓		✓		✓		✓		✓	
	Bid Bond			N/A		✓		✓		✓		✓		✓		✓	
	Acknowledgement of Addenda Received (2)			N/A		✓		✓		✓		✓		✓		✓	
	E-Verify			N/A		✓		✓		✓		✓		✓		✓	
	MBE/WBE			N/A		✓		✓		✓		✓		✓		✓	
	Drug Testing Policy			N/A		✓		✓		✓		✓		✓		✓	
	Health & Safety Program			N/A		✓		✓		✓		-		✓		-	
	Financial Statement			N/A		✓		✓		✓		✓		✓		✓	
	Responsible Bidding Ordinance (EMC 3.95.040)			N/A		✓		✓		✓		✓		✓		✓	
Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
	PHASE I																
1	6" PVC C-900 Pipe	720	LF		$ -	$ 35.00	$ 25,200.00	$ 83.00	$ 59,760.00	$ 41.00	$ 29,520.00		$ -		$ -		$ -
2	8" PVC C-900 Pipe	5580	LF		$ -	$ 58.50	$ 326,430.00	$ 85.00	$ 474,300.00	$ 77.00	$ 429,660.00		$ -		$ -		$ -
3	6" MJ 22.5 deg Bend	2	EA		$ -	$ 750.00	$ 1,500.00	$ 355.00	$ 710.00	$ 275.00	$ 550.00		$ -		$ -		$ -
4	6" MJ 45 deg Bend	2	EA		$ -	$ 775.00	$ 1,550.00	$ 355.00	$ 710.00	$ 280.00	$ 560.00		$ -		$ -		$ -
5	6" MJ 90 deg Bend	1	EA		$ -	$ 800.00	$ 800.00	$ 365.00	$ 365.00	$ 293.00	$ 293.00		$ -		$ -		$ -
6	8" MJ 11.75 deg Bend	8	EA		$ -	$ 850.00	$ 6,800.00	$ 455.00	$ 3,640.00	$ 340.00	$ 2,720.00		$ -		$ -		$ -
7					$ -		$ -		$ -		$ -		$ -		$ -		$ -
8	8" MJ 22.5 deg Bend	9	EA		$ -	$ 860.00	$ 7,740.00	$ 455.00	$ 4,095.00	$ 345.00	$ 3,105.00		$ -		$ -		$ -
9	8" MJ 45 deg Bend	7	EA		$ -	$ 880.00	$ 6,160.00	$ 455.00	$ 3,185.00	$ 350.00	$ 2,450.00		$ -		$ -		$ -
10	6" MJ Tee	1	EA		$ -	$ 1,800.00	$ 1,800.00	$ 485.00	$ 485.00	$ 420.00	$ 420.00		$ -		$ -		$ -
11	8" MJ Tee	15	EA		$ -	$ 2,000.00	$ 30,000.00	$ 545.00	$ 8,175.00	$ 1,185.00	$ 17,775.00		$ -		$ -		$ -
12	4" Gate Valve and Box	1	EA		$ -	$ 2,000.00	$ 2,000.00	$ 1,355.00	$ 1,355.00	$ 1,000.00	$ 1,000.00		$ -		$ -		$ -
13	6" Gate Valve and Box	2	EA		$ -	$ 2,250.00	$ 4,500.00	$ 1,675.00	$ 3,350.00	$ 1,100.00	$ 2,200.00		$ -		$ -		$ -
14	8" Gate Valve and Box	14	EA		$ -	$ 2,500.00	$ 35,000.00	$ 1,910.00	$ 26,740.00	$ 1,650.00	$ 23,100.00		$ -		$ -		$ -
15	8" MJ Plug	3	EA		$ -	$ 1,500.00	$ 4,500.00	$ 325.00	$ 975.00	$ 350.00	$ 1,050.00		$ -		$ -		$ -
16	Fire Hydrant Assembly w/ 6" Hydrant Valve	10	EA		$ -	$ 7,800.00	$ 78,000.00	$ 5,590.00	$ 55,900.00	$ 4,550.00	$ 45,500.00		$ -		$ -		$ -
17	Air Relief Assembly	2	EA		$ -	$ 9,000.00	$ 18,000.00	$ 5,315.00	$ 10,630.00	$ 4,100.00	$ 8,200.00		$ -		$ -		$ -
18	Automatic Flush Device	1	EA		$ -	$ 6,500.00	$ 6,500.00	$ 6,085.00	$ 6,085.00	$ 6,500.00	$ 6,500.00		$ -		$ -		$ -
19	16" x 6" Tapping Sleeve, Tapping Valve, and Box	1	EA		$ -	$ 4,500.00	$ 4,500.00	$ 5,580.00	$ 5,580.00	$ 6,600.00	$ 6,600.00		$ -		$ -		$ -
20	16" x 8" Tapping Sleeve, Tapping Valve, and Box	1	EA		$ -	$ 5,400.00	$ 5,400.00	$ 6,245.00	$ 6,245.00	$ 7,100.00	$ 7,100.00		$ -		$ -		$ -
21	Blow-off Assembly, Temporary	2	EA		$ -	$ 400.00	$ 800.00	$ 1,335.00	$ 2,670.00	$ 1,400.00	$ 2,800.00		$ -		$ -		$ -
22	3/4" Chlorination Tap, Undistributed	2	EA		$ -	$ 350.00	$ 700.00	$ 1,650.00	$ 3,300.00	$ 740.00	$ 1,480.00		$ -		$ -		$ -
23	3/4" or 1" Water Service Relocation - Trenchless	45	EA		$ -	$ 2,150.00	$ 96,750.00	$ 1,655.00	$ 74,475.00	$ 1,250.00	$ 56,250.00		$ -		$ -		$ -
24	3/4" or 1" Water Service Relocation - Open-Cut	31	EA		$ -	$ 1,800.00	$ 55,800.00	$ 1,315.00	$ 40,765.00	$ 1,100.00	$ 34,100.00		$ -		$ -		$ -
25	Water Meter Relocation	5	EA		$ -	$ 1,200.00	$ 6,000.00	$ 635.00	$ 3,175.00	$ 1,350.00	$ 6,750.00		$ -		$ -		$ -
26	Hydrant Removal	3	EA		$ -	$ 800.00	$ 2,400.00	$ 912.00	$ 2,736.00	$ 820.00	$ 2,460.00		$ -		$ -		$ -
27	Valve Box Removal	1	EA		$ -	$ 350.00	$ 350.00	$ 165.00	$ 165.00	$ 150.00	$ 150.00		$ -		$ -		$ -
28	Concrete Plugs for Main Abandonment	1	LS		$ -	$ 650.00	$ 650.00	$ 9,450.00	$ 9,450.00	$ 525.00	$ 525.00		$ -		$ -		$ -
29	Asphalt Pavement Restoration	275	SY		$ -	$ 165.00	$ 45,375.00	$ 126.00	$ 34,650.00	$ 90.00	$ 24,750.00		$ -		$ -		$ -
30	Concrete Pavement Restoration	630	SY		$ -	$ 110.00	$ 69,300.00	$ 83.00	$ 52,290.00	$ 92.00	$ 57,960.00		$ -		$ -		$ -
31	Gravel Pavement Restoration	260	SY		$ -	$ 15.00	$ 3,900.00	$ 18.00	$ 4,680.00	$ 12.00	$ 3,120.00		$ -		$ -		$ -
32	Mobilization/Demobilization	1	LS		$ -	$ 25,000.00	$ 25,000.00	$ 51,000.00	$ 51,000.00	$ 4,600.00	$ 4,600.00		$ -		$ -		$ -
33	Clearing & Grubbing	1	LS		$ -	$ 40,000.00	$ 40,000.00	$ 18,350.00	$ 18,350.00	$ 18,500.00	$ 18,500.00		$ -		$ -		$ -
34	Erosion Control Devices	1	LS		$ -	$ 25,000.00	$ 25,000.00	$ 5,500.00	$ 5,500.00	$ 11,000.00	$ 11,000.00		$ -		$ -		$ -
35	Construction Engineering	1	LS		$ -	$ 10,700.00	$ 10,700.00	$ 19,500.00	$ 19,500.00	$ 7,000.00	$ 7,000.00		$ -		$ -		$ -
36	Maintenance of Traffic	1	LS		$ -	$ 29,000.00	$ 29,000.00	$ 19,500.00	$ 19,500.00	$ 1,000.00	$ 1,000.00		$ -		$ -		$ -
37	Restoration, Grading & Seeding	1	LS		$ -	$ 34,500.00	$ 34,500.00	$ 24,250.00	$ 24,250.00	$ 39,000.00	$ 39,000.00		$ -		$ -		$ -
38	Liquidated Damages	0	Day		$ -	$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	$ -		$ -		$ -		$ -
39					$ -		$ -		$ -		$ -		$ -		$ -		$ -
40					$ -		$ -		$ -		$ -		$ -		$ -		$ -
41					$ -		$ -		$ -		$ -		$ -		$ -		$ -
42					$ -		$ -		$ -		$ -		$ -		$ -		$ -
43					$ -		$ -		$ -		$ -		$ -		$ -		$ -
				TOTAL =	$ -	TOTAL =	$ 1,012,605.00	TOTAL =	$ 1,038,741.00	TOTAL =	$ 859,748.00	TOTAL =	$ -	TOTAL =	$ -	TOTAL =	$ -
				Bid as Read at Bid Opening =		$1,012,605.00		$1,038,741.00		$859,748.00		$1,395,015.00		$1,216,650.00		$1,122,875.00	

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Vanderburgh Neighborhood Ph I, PII and Combination

Tabulation of Bids Received: May 1, 2018
Prepared By: Ryan J. Mayer

CONTRACTORS:	Engineer's Estimate	BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630	Delg Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712	Infrastructure Systems, Inc. 260 W. Vincennes St. Orleans, IN 47452	Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630	Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612	Koberstein Contracting, Inc. 3301 W. Broadway Princeton, IN 47670
Form No. 96 w/ Non-Collusion Affidavit	N/A	✓	✓	✓	✓	✓	✓
Bid Bond	N/A	✓	✓	✓	✓	✓	✓
Acknowledgement of Addenda Received (2)	N/A	✓	✓	✓	✓	✓	✓
E-Verify	N/A	✓	✓	✓	✓	✓	✓
MBE/WBE	N/A	✓	✓	✓	✓	✓	✓
Drug Testing Policy	N/A	✓	✓	✓	✓	✓	✓
Health & Safety Program	N/A	✓	✓	✓	-	✓	-
Financial Statement	N/A	✓	✓	✓	✓	✓	✓
Responsible Bidding Ordinance (EMC 3.95.040)	N/A	✓	✓	✓	✓	✓	✓

Item No.	Description	Quantity	Unit	Engineer's Estimate Unit Price	Engineer's Estimate Total	BMB, Inc. Unit Price	BMB, Inc. Total	Delg Bros. Unit Price	Delg Bros. Total	Infrastructure Systems, Inc. Unit Price	Infrastructure Systems, Inc. Total	Ragle, Inc. Unit Price	Ragle, Inc. Total	Blankenberger Brothers, Inc. Unit Price	Blankenberger Brothers, Inc. Total	Koberstein Contracting, Inc. Unit Price	Koberstein Contracting, Inc. Total
	PHASE II																
1	6" C151 Ductile Iron Pipe	15	LF		$ -	$ 35.00	$ 525.00	$ 226.00	$ 3,390.00	$ 67.00	$ 1,005.00		$ -		$ -		$ -
2	4" PVC C-900 RJ Pipe	450	LF		$ -	$ 49.00	$ 22,050.00	$ 92.00	$ 41,400.00	$ 27.00	$ 12,150.00		$ -		$ -		$ -
3	8" PVC C-900 RJ Pipe	2330	LF		$ -	$ 55.00	$ 128,150.00	$ 117.00	$ 272,610.00	$ 90.00	$ 209,700.00		$ -		$ -		$ -
4	4" Gate Valve and Box	2	EA		$ -	$ 2,000.00	$ 4,000.00	$ 1,355.00	$ 2,710.00	$ 1,000.00	$ 2,000.00		$ -		$ -		$ -
5	8" Gate Valve and Box	5	EA		$ -	$ 2,500.00	$ 12,500.00	$ 1,910.00	$ 9,550.00	$ 1,650.00	$ 8,250.00		$ -		$ -		$ -
6	8" MJ Tee	2	EA		$ -	$ 2,000.00	$ 4,000.00	$ 545.00	$ 1,090.00	$ 1,185.00	$ 2,370.00		$ -		$ -		$ -
7	4" MJ 45 deg Bend	1	EA		$ -	$ 690.00	$ 690.00	$ 290.00	$ 290.00	$ 300.00	$ 300.00		$ -		$ -		$ -
8	8" MJ 45 deg Bend	4	EA		$ -	$ 880.00	$ 3,520.00	$ 455.00	$ 1,820.00	$ 350.00	$ 1,400.00		$ -		$ -		$ -
9	8" MJ 22.5 deg Bend	1	EA		$ -	$ 860.00	$ 860.00	$ 455.00	$ 455.00	$ 345.00	$ 345.00		$ -		$ -		$ -
10	16" x 8" Tapping Sleeve, Tapping Valve, and Box	1	EA		$ -	$ 5,400.00	$ 5,400.00	$ 6,245.00	$ 6,245.00	$ 7,100.00	$ 7,100.00		$ -		$ -		$ -
11	8" MJ Plug	1	EA		$ -	$ 250.00	$ 250.00	$ 325.00	$ 325.00	$ 350.00	$ 350.00		$ -		$ -		$ -
12	8"x4" MJ Reducer	2	EA		$ -	$ 850.00	$ 1,700.00	$ 275.00	$ 550.00	$ 350.00	$ 700.00		$ -		$ -		$ -
13	8"x6" MJ Reducer	1	EA		$ -	$ 900.00	$ 900.00	$ 285.00	$ 285.00	$ 360.00	$ 360.00		$ -		$ -		$ -
14	Fire Hydrant Assembly w/ 6" Hydrant Valve	3	EA		$ -	$ 7,800.00	$ 23,400.00	$ 5,590.00	$ 16,770.00	$ 4,550.00	$ 13,650.00		$ -		$ -		$ -
15	Blow-off Assembly, Temporary	3	EA		$ -	$ 400.00	$ 1,200.00	$ 1,335.00	$ 4,005.00	$ 1,400.00	$ 4,200.00		$ -		$ -		$ -
16	3/4" Chlorination Tap, Undistributed	3	EA		$ -	$ 350.00	$ 1,050.00	$ 1,650.00	$ 4,950.00	$ 700.00	$ 2,100.00		$ -		$ -		$ -
17	3/4" or 1" Water Service Relocation - Trenchless	33	EA		$ -	$ 2,150.00	$ 70,950.00	$ 1,655.00	$ 54,615.00	$ 1,250.00	$ 41,250.00		$ -		$ -		$ -
18	3/4" or 1" Water Service Relocation - Open-Cut	22	EA		$ -	$ 1,800.00	$ 39,600.00	$ 1,315.00	$ 28,930.00	$ 1,100.00	$ 24,200.00		$ -		$ -		$ -
19	Water Meter Relocation	15	EA		$ -	$ 1,200.00	$ 18,000.00	$ 635.00	$ 9,525.00	$ 1,350.00	$ 20,250.00		$ -		$ -		$ -
20	Concrete Plugs for Main Abandonment	2	EA		$ -	$ 650.00	$ 1,300.00	$ 1,050.00	$ 2,100.00	$ 525.00	$ 1,050.00		$ -		$ -		$ -
21	Valve Box Removal	6	EA		$ -	$ 350.00	$ 2,100.00	$ 165.00	$ 990.00	$ 150.00	$ 900.00		$ -		$ -		$ -
22	Asphalt Pavement Restoration	26	SY		$ -	$ 410.00	$ 10,660.00	$ 484.00	$ 12,584.00	$ 90.00	$ 2,340.00		$ -		$ -		$ -
23	Mobilization/Demobilization	1	LS		$ -	$ 15,000.00	$ 15,000.00	$ 28,000.00	$ 28,000.00	$ 5,135.00	$ 5,135.00		$ -		$ -		$ -
24	Clearing & Grubbing	1	LS		$ -	$ 4,000.00	$ 4,000.00	$ 9,750.00	$ 9,750.00	$ 7,600.00	$ 7,600.00		$ -		$ -		$ -
25	Erosion Control Devices	1	LS		$ -	$ 8,000.00	$ 8,000.00	$ 3,500.00	$ 3,500.00	$ 4,500.00	$ 4,500.00		$ -		$ -		$ -
26	Construction Engineering	1	LS		$ -	$ 5,500.00	$ 5,500.00	$ 18,500.00	$ 18,500.00	$ 5,800.00	$ 5,800.00		$ -		$ -		$ -
27	Maintenance of Traffic	1	LS		$ -	$ 15,000.00	$ 15,000.00	$ 20,000.00	$ 20,000.00	$ 1,285.00	$ 1,285.00		$ -		$ -		$ -
28	Restoration, Grading & Seeding	1	LS		$ -	$ 7,500.00	$ 7,500.00	$ 18,000.00	$ 18,000.00	$ 38,000.00	$ 38,000.00		$ -		$ -		$ -
29	Liquidated Damages	0	Day		$ -	$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	$ -		$ -		$ -		$ -
30					$ -		$ -		$ -		$ -		$ -		$ -		$ -
31					$ -		$ -		$ -		$ -		$ -		$ -		$ -
32					$ -		$ -		$ -		$ -		$ -		$ -		$ -
33					$ -		$ -		$ -		$ -		$ -		$ -		$ -
34					$ -		$ -		$ -		$ -		$ -		$ -		$ -
35					$ -		$ -		$ -		$ -		$ -		$ -		$ -
36					$ -		$ -		$ -		$ -		$ -		$ -		$ -
37					$ -		$ -		$ -		$ -		$ -		$ -		$ -
38					$ -		$ -		$ -		$ -		$ -		$ -		$ -
39					$ -		$ -		$ -		$ -		$ -		$ -		$ -
40					$ -		$ -		$ -		$ -		$ -		$ -		$ -
41					$ -		$ -		$ -		$ -		$ -		$ -		$ -
42					$ -		$ -		$ -		$ -		$ -		$ -		$ -
43					$ -		$ -		$ -		$ -		$ -		$ -		$ -
				TOTAL =	$ -	TOTAL =	$ 407,805.00	TOTAL =	$ 572,939.00	TOTAL =	$ 418,290.00	TOTAL =	$ -	TOTAL =	$ -	TOTAL =	$ -
				Bid as Read at Bid Opening =		$407,805.00		$572,939.00		$418,290.00		No Bid		$558,715.00		No Bid	

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
Vanderburgh Neighborhood Ph I, PII and Combination

Tabulation of Bids Received: May 1, 2018
Prepared By: Ryan J. Mayer

	CONTRACTORS:			Engineer's Estimate		BMB, Inc. 3614 Citadel Circle Newburgh, IN 47630		Delg Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712		Infrastructure Systems, Inc. 260 W. Vincennes St. Orleans, IN 47452		Ragle, Inc. 5266 Vann Rd. Newburgh, IN 47630		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612		Koberstein Contracting, Inc. 3301 W. Broadway Princeton, IN 47670	
	Form No. 96 w/ Non-Collusion Affidavit			N/A		✓		✓		✓		✓		✓		✓	
	Bid Bond			N/A		✓		✓		✓		✓		✓		✓	
	Acknowledgement of Addenda Received (2)			N/A		✓		✓		✓		✓		✓		✓	
	E-Verify			N/A		✓		✓		✓		✓		✓		✓	
	MBE/WBE			N/A		✓		✓		✓		✓		✓		✓	
	Drug Testing Policy			N/A		✓		✓		✓		✓		✓		✓	
	Health & Safety Program			N/A		✓		✓		✓		-		✓		-	
	Financial Statement			N/A		✓		✓		✓		✓		✓		✓	
	Responsible Bidding Ordinance (EMC 3.95.040)			N/A		✓		✓		✓		✓		✓		✓	
Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
	Combined Ph I and II																
1	6" C151 Ductile Iron Pipe	15	LF		$ -	$ 35.00	$ 525.00	$ 226.00	$ 3,390.00		$ -		$ -		$ -		$ -
2	4" PVC C-900 RJ Pipe	450	LF		$ -	$ 49.00	$ 22,050.00	$ 76.00	$ 34,200.00		$ -		$ -		$ -		$ -
3	6" PVC C-900 Pipe	720	LF		$ -	$ 35.00	$ 25,200.00	$ 83.00	$ 59,760.00		$ -		$ -		$ -		$ -
4	8" PVC C-900 Pipe	7810	LF		$ -	$ 57.00	$ 445,170.00	$ 85.00	$ 663,850.00		$ -		$ -		$ -		$ -
5	4" MJ 45 deg Bend	1	EA		$ -	$ 690.00	$ 690.00	$ 290.00	$ 290.00		$ -		$ -		$ -		$ -
6	6" MJ 22.5 deg Bend	2	EA		$ -	$ 750.00	$ 1,500.00	$ 355.00	$ 710.00		$ -		$ -		$ -		$ -
7	6" MJ 45 deg Bend	2	EA		$ -	$ 775.00	$ 1,550.00	$ 355.00	$ 710.00		$ -		$ -		$ -		$ -
8	6" MJ 90 deg Bend	1	EA		$ -	$ 800.00	$ 800.00	$ 365.00	$ 365.00		$ -		$ -		$ -		$ -
9	8" MJ 11.25 deg Bend	8	EA		$ -	$ 850.00	$ 6,800.00	$ 455.00	$ 3,640.00		$ -		$ -		$ -		$ -
10	8" MJ 22.5 deg Bend	10	EA		$ -	$ 860.00	$ 8,600.00	$ 455.00	$ 4,550.00		$ -		$ -		$ -		$ -
11	8" MJ 45 deg Bend	11	EA		$ -	$ 880.00	$ 9,680.00	$ 455.00	$ 5,005.00		$ -		$ -		$ -		$ -
12	6" MJ Tee	1	EA		$ -	$ 1,800.00	$ 1,800.00	$ 485.00	$ 485.00		$ -		$ -		$ -		$ -
13	8" MJ Tee	17	EA		$ -	$ 2,000.00	$ 34,000.00	$ 545.00	$ 9,265.00		$ -		$ -		$ -		$ -
14	4" Gate Valve and Box	2	EA		$ -	$ 2,000.00	$ 4,000.00	$ 1,355.00	$ 2,710.00		$ -		$ -		$ -		$ -
15	6" Gate Valve and Box	1	EA		$ -	$ 2,250.00	$ 2,250.00	$ 1,675.00	$ 1,675.00		$ -		$ -		$ -		$ -
16	8" Gate Valve and Box	19	EA		$ -	$ 2,500.00	$ 47,500.00	$ 1,910.00	$ 36,290.00		$ -		$ -		$ -		$ -
17	8" MJ Plug	1	EA		$ -	$ 1,500.00	$ 1,500.00	$ 325.00	$ 325.00		$ -		$ -		$ -		$ -
18	8"x4" MJ Reducer	2	EA		$ -	$ 850.00	$ 1,700.00	$ 275.00	$ 550.00		$ -		$ -		$ -		$ -
19	8"x6" MJ Reducer	1	EA		$ -	$ 900.00	$ 900.00	$ 285.00	$ 285.00		$ -		$ -		$ -		$ -
20	16" x 6" Tapping Sleeve, Tapping Valve, and Box	1	EA		$ -	$ 4,500.00	$ 4,500.00	$ 5,580.00	$ 5,580.00		$ -		$ -		$ -		$ -
21	16" x 8" Tapping Sleeve, Tapping Valve, and Box	2	EA		$ -	$ 5,400.00	$ 10,800.00	$ 6,245.00	$ 12,490.00		$ -		$ -		$ -		$ -
22	Air Relief Assembly	2	EA		$ -	$ 9,000.00	$ 18,000.00	$ 5,315.00	$ 10,630.00		$ -		$ -		$ -		$ -
23	Automatic Flush Device	1	EA		$ -	$ 6,500.00	$ 6,500.00	$ 6,085.00	$ 6,085.00		$ -		$ -		$ -		$ -
24	Fire Hydrant Assembly w/ 6" Hydrant Valve	13	EA		$ -	$ 7,800.00	$ 101,400.00	$ 5,590.00	$ 72,670.00		$ -		$ -		$ -		$ -
25	Blow-off Assembly, Temporary	5	EA		$ -	$ 2,100.00	$ 10,500.00	$ 1,335.00	$ 6,675.00		$ -		$ -		$ -		$ -
26	3/4" Chlorination Tap, Undistributed	5	EA		$ -	$ 350.00	$ 1,750.00	$ 1,650.00	$ 8,250.00		$ -		$ -		$ -		$ -
27	3/4" or 1" Water Service Relocation - Trenchless	78	EA		$ -	$ 2,150.00	$ 167,700.00	$ 1,655.00	$ 129,090.00		$ -		$ -		$ -		$ -
28	3/4" or 1" Water Service Relocation - Open Cut	53	EA		$ -	$ 1,800.00	$ 95,400.00	$ 1,315.00	$ 69,695.00		$ -		$ -		$ -		$ -
29	Water Meter Relocation	20	EA		$ -	$ 1,200.00	$ 24,000.00	$ 635.00	$ 12,700.00		$ -		$ -		$ -		$ -
30	Hydrant Removal	3	EA		$ -	$ 800.00	$ 2,400.00	$ 912.00	$ 2,736.00		$ -		$ -		$ -		$ -
31	Valve Box Removal	7	EA		$ -	$ 350.00	$ 2,450.00	$ 165.00	$ 1,155.00		$ -		$ -		$ -		$ -
32	Concrete Plugs for Main Abandonment	1	LS		$ -	$ 650.00	$ 650.00	$ 13,200.00	$ 13,200.00		$ -		$ -		$ -		$ -
33	Asphalt Pavement Restoration	301	SY		$ -	$ 165.00	$ 49,665.00	$ 164.00	$ 49,364.00		$ -		$ -		$ -		$ -
34	Concrete Pavement Restoration	630	SY		$ -	$ 110.00	$ 69,300.00	$ 83.00	$ 52,290.00		$ -		$ -		$ -		$ -
35	Gravel Pavement Restoration	260	SY		$ -	$ 15.00	$ 3,900.00	$ 18.00	$ 4,680.00		$ -		$ -		$ -		$ -
36	Mobilization/Demobilization	1	LS		$ -	$ 40,000.00	$ 40,000.00	$ 74,000.00	$ 74,000.00		$ -		$ -		$ -		$ -
37	Clearing & Grubbing	1	LS		$ -	$ 44,000.00	$ 44,000.00	$ 31,600.00	$ 31,600.00		$ -		$ -		$ -		$ -
38	Erosion Control Devices	1	LS		$ -	$ 33,000.00	$ 33,000.00	$ 9,000.00	$ 9,000.00		$ -		$ -		$ -		$ -
39	Construction Engineering	1	LS		$ -	$ 16,200.00	$ 16,200.00	$ 27,000.00	$ 27,000.00		$ -		$ -		$ -		$ -
40	Maintenance of Traffic	1	LS		$ -	$ 45,000.00	$ 45,000.00	$ 38,000.00	$ 38,000.00		$ -		$ -		$ -		$ -
41	Restoration, Grading & Seeding	1	LS		$ -	$ 42,000.00	$ 42,000.00	$ 42,000.00	$ 42,000.00		$ -		$ -		$ -		$ -
42	Liquidated Damages	0	Day		$ -	$ 1,000.00	$ -	$ 1,000.00	$ -		$ -		$ -		$ -		$ -
43					$ -		$ -		$ -		$ -		$ -		$ -		$ -
44					$ -		$ -		$ -		$ -		$ -		$ -		$ -
45					$ -		$ -		$ -		$ -		$ -		$ -		$ -
46					$ -		$ -		$ -		$ -		$ -		$ -		$ -
47					$ -		$ -		$ -		$ -		$ -		$ -		$ -
				TOTAL =	$ -	TOTAL =	$ 1,405,330.00	TOTAL =	$ 1,506,945.00	TOTAL =	$ -	TOTAL =	$ -	TOTAL =	$ -	TOTAL =	$ -
				Bid as Read at Bid Opening =		$1,405,330.00		$1,506,945.00		$1,160,123.00		No Bid		No Bid		No Bid	

Note: Infrastructure Combined Bid Withdrawn

BID TABULATION
EVANSVILLE WATER AND SEWER UTILITY ENGINEERING DEPARTMENT
GREEN RIVER ROAD PHASE VI & VII WATER RELOCATION, PROJECT NO. W11108 NC

Tabulation of Bids Received: February 20, 2018
Prepared By: Ryan J. Mayer

CONTRACTORS:	Engineer's Estimate	Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612	Koberstein Contracting, Inc. 3301 W. Broadway Princeton, IN 47670	Infrastructure Systems, Inc. 260 W. Vincennes St. Orleans, IN 47452	Raglo, Inc. 5266 Vann Rd. Newburgh, IN 47630	Delg Bros. Lumber & Const. 2804 A Street; PO Box 6429 Evansville, IN 47712	Kleffer Bros. Const. Co., Inc. 933 W. 3rd St. Mt. Carmel, IL 62863
Form No. 96 w/ Non-Collusion Affidavit	N/A	✓	✓	✓	✓	✓	✓
Bid Bond	N/A	✓	✓	✓	✓	✓	✓
Acknowledgement of Addenda Received (2)	N/A	✓	✓	✓	✓	✓	✓
E-Verify	N/A	✓	✓	✓	✓	✓	✓
MBE/WBE	N/A	✓	✓	✓	✓	✓	✓
Drug Testing Policy	N/A	✓	✓	✓	✓	✓	✓
Health & Safety Program	N/A	✓	✓	✓	-	✓	-
Financial Statement	N/A	✓	✓	✓	✓	✓	✓
Responsible Bidding Ordinance (EMC 3.95.040)	N/A	✓	✓	✓	✓	✓	✓

Item No.	Description	Quantity	Unit	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total	Unit Price	Total
1	12" PVC C-900 Pipe	9307	LF	$ 115.00	$ 1,069,730.00	$ 69.00	$ 641,838.00	$ 100.00	$ 930,200.00	$ 110.00	$ 1,023,220.00	$ 100.00	$ 930,200.00	$ 107.00	$ 995,314.00	$ 134.50	$ 1,251,119.00
2	12" PVC C-900 RJ Pipe, Trenchless	243	LF	$ 100.00	$ 24,300.00	$ 110.00	$ 26,730.00	$ 98.00	$ 23,814.00	$ 117.00	$ 28,431.00	$ 120.00	$ 29,160.00	$ 129.00	$ 31,347.00	$ 122.00	$ 29,646.00
3	12" PVC C-900 RJ Pipe	59	LF	$ 130.00	$ 7,670.00	$ 73.00	$ 4,307.00	$ 126.00	$ 7,434.00	$ 121.00	$ 7,139.00	$ 150.00	$ 8,850.00	$ 119.00	$ 7,021.00	$ 229.00	$ 13,511.00
4	12" Ductile Iron Pipe	220	LF	$ 250.00	$ 55,000.00	$ 133.00	$ 29,260.00	$ 130.00	$ 28,600.00	$ 253.00	$ 55,660.00	$ 200.00	$ 44,000.00	$ 223.00	$ 49,060.00	$ 219.50	$ 48,290.00
5	8" PVC C-900 Pipe	224	LF	$ 90.00	$ 20,160.00	$ 80.00	$ 17,920.00	$ 145.00	$ 32,480.00	$ 340.00	$ 76,160.00	$ 125.00	$ 28,000.00	$ 92.00	$ 20,608.00	$ 180.00	$ 40,320.00
6	Water Main, Trenchless Casing Installation w/ Carrier	136	LF	$ 700.00	$ 95,200.00	$ 435.00	$ 59,160.00	$ 680.00	$ 92,480.00	$ 400.00	$ 54,400.00	$ 275.00	$ 37,400.00	$ 411.00	$ 55,896.00	$ 425.00	$ 57,800.00
7	12" Gate Valve	25	EA	$ 3,000.00	$ 75,000.00	$ 2,400.00	$ 60,000.00	$ 2,365.00	$ 59,125.00	$ 3,130.00	$ 78,250.00	$ 2,500.00	$ 62,500.00	$ 3,085.00	$ 77,125.00	$ 2,420.00	$ 60,500.00
8	8" Gate Valve	5	EA	$ 1,700.00	$ 8,500.00	$ 1,360.00	$ 6,800.00	$ 1,410.00	$ 7,050.00	$ 1,616.00	$ 8,080.00	$ 1,500.00	$ 7,500.00	$ 2,245.00	$ 11,225.00	$ 1,660.00	$ 8,300.00
9	12" Tapping Valve	1	EA	$ 3,200.00	$ 3,200.00	$ 4,400.00	$ 4,400.00	$ 3,680.00	$ 3,680.00	$ 2,965.00	$ 2,965.00	$ 4,000.00	$ 4,000.00	$ 3,475.00	$ 3,475.00	$ 3,750.00	$ 3,750.00
10	12"x12" Tapping Sleeve	1	EA	$ 5,700.00	$ 5,700.00	$ 2,700.00	$ 2,700.00	$ 3,050.00	$ 3,050.00	$ 5,230.00	$ 5,230.00	$ 1,500.00	$ 1,500.00	$ 5,520.00	$ 5,520.00	$ 2,200.00	$ 2,200.00
11	12"x12" MJ Tee	3	EA	$ 1,000.00	$ 3,000.00	$ 650.00	$ 1,950.00	$ 690.00	$ 2,070.00	$ 1,680.00	$ 5,040.00	$ 650.00	$ 1,950.00	$ 840.00	$ 2,520.00	$ 1,025.00	$ 3,075.00
12	12"x8" MJ Tee	4	EA	$ 825.00	$ 3,300.00	$ 520.00	$ 2,080.00	$ 515.00	$ 2,060.00	$ 1,450.00	$ 5,800.00	$ 525.00	$ 2,100.00	$ 830.00	$ 3,320.00	$ 920.00	$ 3,680.00
13	12"x6" MJ Tee	23	EA	$ 800.00	$ 18,400.00	$ 520.00	$ 11,960.00	$ 490.00	$ 11,270.00	$ 1,369.00	$ 31,487.00	$ 500.00	$ 11,500.00	$ 830.00	$ 19,090.00	$ 885.00	$ 20,355.00
14	8"x6" MJ Tee	1	EA	$ 550.00	$ 550.00	$ 290.00	$ 290.00	$ 350.00	$ 350.00	$ 600.00	$ 600.00	$ 300.00	$ 300.00	$ 575.00	$ 575.00	$ 750.00	$ 750.00
15	12" 45° MJ Bend	29	EA	$ 850.00	$ 24,650.00	$ 560.00	$ 16,240.00	$ 475.00	$ 13,775.00	$ 1,300.00	$ 37,700.00	$ 425.00	$ 12,325.00	$ 630.00	$ 18,270.00	$ 845.00	$ 24,505.00
16	8" 45° MJ Bend	4	EA	$ 500.00	$ 2,000.00	$ 300.00	$ 1,200.00	$ 300.00	$ 1,200.00	$ 515.00	$ 2,060.00	$ 250.00	$ 1,000.00	$ 455.00	$ 1,820.00	$ 650.00	$ 2,600.00
17	12" 22.5° MJ Bend	8	EA	$ 900.00	$ 7,200.00	$ 550.00	$ 4,400.00	$ 500.00	$ 4,000.00	$ 940.00	$ 7,520.00	$ 425.00	$ 3,400.00	$ 640.00	$ 5,120.00	$ 800.00	$ 6,400.00
18	8" 22.5° MJ Bend	4	EA	$ 550.00	$ 2,200.00	$ 320.00	$ 1,280.00	$ 325.00	$ 1,300.00	$ 515.00	$ 2,060.00	$ 250.00	$ 1,000.00	$ 455.00	$ 1,820.00	$ 630.00	$ 2,520.00
19	12" 11.25° MJ Bend	7	EA	$ 900.00	$ 6,300.00	$ 540.00	$ 3,780.00	$ 450.00	$ 3,150.00	$ 933.00	$ 6,531.00	$ 425.00	$ 2,975.00	$ 655.00	$ 4,585.00	$ 735.00	$ 5,145.00
20	8" MJ Plug	1	EA	$ 400.00	$ 400.00	$ 180.00	$ 180.00	$ 220.00	$ 220.00	$ 380.00	$ 380.00	$ 115.00	$ 115.00	$ 340.00	$ 340.00	$ 435.00	$ 435.00
21	Fire Hydrant Assembly w/ 6" Hydrant Valve	22	EA	$ 5,500.00	$ 121,000.00	$ 6,200.00	$ 136,400.00	$ 6,000.00	$ 132,000.00	$ 5,150.00	$ 113,300.00	$ 7,250.00	$ 159,500.00	$ 6,045.00	$ 132,990.00	$ 6,850.00	$ 150,700.00
22	Air Relief Assembly	1	EA	$ 4,800.00	$ 4,800.00	$ 4,600.00	$ 4,600.00	$ 4,450.00	$ 4,450.00	$ 4,000.00	$ 4,000.00	$ 4,500.00	$ 4,500.00	$ 5,218.00	$ 5,218.00	$ 5,550.00	$ 5,550.00
23	Stream Crossing Leakage & Sampling Structure	1	EA	$ 5,000.00	$ 5,000.00	$ 3,200.00	$ 3,200.00	$ 2,175.00	$ 2,175.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 6,520.00	$ 6,520.00	$ 4,050.00	$ 4,050.00
24	2" Blow-off Assembly, Temporary, Undistributed	12	EA	$ 1,000.00	$ 12,000.00	$ 1,100.00	$ 13,200.00	$ 840.00	$ 10,080.00	$ 570.00	$ 6,840.00	$ 550.00	$ 6,600.00	$ 1,315.00	$ 15,780.00	$ 1,460.00	$ 17,520.00
25	3/4" Chlorination Tap, Undistributed	8	EA	$ 800.00	$ 6,400.00	$ 500.00	$ 4,000.00	$ 520.00	$ 4,160.00	$ 800.00	$ 6,400.00	$ 650.00	$ 5,200.00	$ 1,585.00	$ 12,680.00	$ 650.00	$ 5,200.00
26	3/4" or 1" Water Service Relocation - Open-Cut	21	EA	$ 2,000.00	$ 42,000.00	$ 1,200.00	$ 25,200.00	$ 1,400.00	$ 29,400.00	$ 1,885.00	$ 39,585.00	$ 1,750.00	$ 36,750.00	$ 1,625.00	$ 34,125.00	$ 1,500.00	$ 31,500.00
27	3/4" or 1" Water Service Relocation - Trenchless	24	EA	$ 2,200.00	$ 52,800.00	$ 1,700.00	$ 40,800.00	$ 1,820.00	$ 43,680.00	$ 2,180.00	$ 52,320.00	$ 2,000.00	$ 48,000.00	$ 1,975.00	$ 47,400.00	$ 2,000.00	$ 48,000.00
28	2" Water Service & Meter Relocation	2	EA	$ 6,000.00	$ 12,000.00	$ 4,500.00	$ 9,000.00	$ 4,075.00	$ 8,150.00	$ 4,880.00	$ 9,760.00	$ 4,500.00	$ 9,000.00	$ 4,410.00	$ 8,820.00	$ 7,700.00	$ 15,400.00
29	6" Fire Protection Service Relocation	1	LS	$ 19,730.00	$ 19,730.00	$ 8,700.00	$ 8,700.00	$ 21,300.00	$ 21,300.00	$ 9,885.00	$ 9,885.00	$ 12,500.00	$ 12,500.00	$ 9,245.00	$ 9,245.00	$ 17,350.00	$ 17,350.00
30	Water Meter Relocation	32	EA	$ 1,600.00	$ 51,200.00	$ 840.00	$ 26,880.00	$ 1,600.00	$ 51,200.00	$ 595.00	$ 19,040.00	$ 1,900.00	$ 60,800.00	$ 990.00	$ 31,680.00	$ 1,750.00	$ 56,000.00
31	Hydrant Removal	8	EA	$ 1,000.00	$ 8,000.00	$ 140.00	$ 1,120.00	$ 435.00	$ 3,480.00	$ 243.00	$ 1,944.00	$ 200.00	$ 1,600.00	$ 1,025.00	$ 8,200.00	$ 480.00	$ 3,840.00
32	Valve Box Removal	22	EA	$ 250.00	$ 5,500.00	$ 70.00	$ 1,540.00	$ 190.00	$ 4,180.00	$ 187.00	$ 4,114.00	$ 100.00	$ 2,200.00	$ 90.00	$ 1,980.00	$ 200.00	$ 4,400.00
33	Concrete Plugs for Main Abandonment	1	LS	$ 9,000.00	$ 9,000.00	$ 5,300.00	$ 5,300.00	$ 3,000.00	$ 3,000.00	$ 1,400.00	$ 1,400.00	$ 2,000.00	$ 2,000.00	$ 10,350.00	$ 10,350.00	$ 10,100.00	$ 10,100.00
34	Flowable Fill for Main/Casing Abandonment	57	CY	$ 250.00	$ 14,250.00	$ 290.00	$ 16,530.00	$ 170.00	$ 9,690.00	$ 237.00	$ 13,509.00	$ 350.00	$ 19,950.00	$ 223.00	$ 12,711.00	$ 245.00	$ 13,965.00
35	Temporary Pavement Repair, HMA Base, 25mm	8720	LF	$ 40.00	$ 348,800.00	$ 21.00	$ 183,120.00	$ 24.00	$ 209,280.00	$ 20.00	$ 174,400.00	$ 21.00	$ 183,120.00	$ 26.00	$ 226,720.00	$ 35.00	$ 305,200.00
36	Hydro Excavation for Existing Railroad Casing	8	HR	$ 400.00	$ 3,200.00	$ 780.00	$ 6,240.00	$ 293.00	$ 2,344.00	$ 322.00	$ 2,576.00	$ 400.00	$ 3,200.00	$ 205.00	$ 1,640.00	$ 780.00	$ 6,240.00
37	Railroad Insurance Requirements	1	LS	$ 1,500.00	$ 1,500.00	$ 1,200.00	$ 1,200.00	$ 3,500.00	$ 3,500.00	$ 7,250.00	$ 7,250.00	$ 1,500.00	$ 1,500.00	$ 3,800.00	$ 3,800.00	$ 11,440.00	$ 11,440.00
38	Restoration, Grading & Seeding	1	LS	$ 20,400.00	$ 20,400.00	$ 11,000.00	$ 11,000.00	$ 24,500.00	$ 24,500.00	$ 63,000.00	$ 63,000.00	$ 15,000.00	$ 15,000.00	$ 26,500.00	$ 26,500.00	$ 10,768.00	$ 10,768.00
39	Clearing & Grubbing	1	LS	$ 64,490.00	$ 64,490.00	$ 600.00	$ 600.00	$ 3,800.00	$ 3,800.00	$ 2,387.00	$ 2,387.00	$ 130,000.00	$ 130,000.00	$ 12,500.00	$ 12,500.00	$ 4,800.00	$ 4,800.00
40	Construction Engineering	1	LS	$ 43,000.00	$ 43,000.00	$ 11,800.00	$ 11,800.00	$ 46,000.00	$ 46,000.00	$ 30,000.00	$ 30,000.00	$ 25,000.00	$ 25,000.00	$ 37,000.00	$ 37,000.00	$ 25,595.00	$ 25,595.00
41	Erosion Control Devices	1	LS	$ 32,250.00	$ 32,250.00	$ 8,300.00	$ 8,300.00	$ 6,800.00	$ 6,800.00	$ 10,650.00	$ 10,650.00	$ 15,000.00	$ 15,000.00	$ 10,500.00	$ 10,500.00	$ 12,350.00	$ 12,350.00
42	Mobilization/Demobilization	1	LS	$ 107,490.00	$ 107,490.00	$ 51,000.00	$ 51,000.00	$ 33,000.00	$ 33,000.00	$ 50,000.00	$ 50,000.00	$ 108,000.00	$ 108,000.00	$ 109,000.00	$ 109,000.00	$ 120,000.00	$ 120,000.00
43	Maintenance of Traffic	1	LS	$ 75,240.00	$ 75,240.00	$ 18,000.00	$ 18,000.00	$ 45,100.00	$ 45,100.00	$ 7,900.00	$ 7,900.00	$ 125,000.00	$ 125,000.00	$ 108,000.00	$ 108,000.00	$ 47,400.00	$ 47,400.00
				TOTAL =	$ 2,492,510.00	TOTAL =	$ 1,484,205.00	TOTAL =	$ 1,928,577.00	TOTAL =	$ 2,071,973.00	TOTAL =	$ 2,167,195.00	TOTAL =	$ 2,187,410.00	TOTAL =	$ 2,512,269.00
				Bid as Read at Bid Opening =		$1,484,205.00		$1,928,577.00		$2,071,973.00		$2,167,195.00		$2,187,410.00		$2,512,269.00	

Certified By: _____
Ryan J. Mayer, P.E.
Indiana Registered Engineer No. 11100059

TABULATION OF BIDS

CITY OF EVANSVILLE, INDIANA
EVANSVILLE WATER & SEWER UTILITY
WEST MILL ROAD AND MOHR ROAD WATER MAIN REPLACEMENT
HNTB Job No. 64663-DS-001
EWSU Project No. W 10960

BIDS RECEIVED: TUESDAY, February 20, 2018 at 1:30 P.M. (Local Time)

Contractor Information				Infrastructure Systems, Inc. 260 W. Vincennes St. P.O. Box 148 Orleans, IN 47452		Blankenberger Brothers, Inc. 11700 Water Tank Road Cynthiana, IN 47612-9528		Ragle, Inc. P.O. Box 444 5266 Vann Road Newburgh, IN 47629		Deig Bros. Lumber & Construction Co., Inc. 2804 A Street, P.O. Box 6429 Evansville, IN 47712		Kieffer Bros. Construction Co., Inc. 933 W. 3rd St. Mt. Carmel, IL 62863	
ITEM													
Proposal Form				X		X		X		X		X	
Bid Security				X		X		X		X		X	
Form 96, with Section III				X		X		X		X		X	
Affidavit of Non-Collusion (Form 96)				X		X		X		X		X	
Drug & Alcohol Policies				X		X		X		X		X	
Health & Safety Program Manual, EMR, TRIR, and DART				X		X		X		X		X	
E-Verify Form				X		X		X		X		X	
MBE/WBE Program Participation Plans / Waivers				X		X		X		X		X	
MBE (12%) / WBE (7%)				12% / 7%		2.77% / 3.49%		12.06% / 7.03%		0.4% / 4.5%		12% / 7%	
Addenda Nos. 1 and 2 Received				X		X		X		X		X	
Item No.	Item	Quantity	Unit	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1	12" PVC C-900 Water Main (Open Cut)	2,583	LF	$40.00	$103,320.00	$56.00	$144,648.00	$84.00	$216,972.00	$96.00	$247,968.00	$142.00	$366,786.00
2	12" PVC C-900 Water Main (Jack and Bore)	65	LF	$960.00	$62,400.00	$950.00	$61,750.00	$780.00	$50,700.00	$382.00	$24,830.00	$1,100.00	$71,500.00
3	12" Restrained Joint PVC Water Main (Horizontal Directionally Drilled)	830	LF	$98.00	$81,340.00	$102.00	$84,660.00	$88.00	$73,040.00	$123.00	$102,090.00	$134.00	$111,220.00
4	Casing Pipe (Open Cut)	160	LF	$270.00	$43,200.00	$400.00	$64,000.00	$270.00	$43,200.00	$193.00	$30,880.00	$425.00	$68,000.00
5	12" Gate Valve	6	EA	$3,250.00	$19,500.00	$2,740.00	$16,440.00	$2,300.00	$13,800.00	$3,085.00	$18,510.00	$4,385.00	$26,310.00
6	12"x12" MJ Tee	1	EA	$1,490.00	$1,490.00	$1,315.00	$1,315.00	$1,200.00	$1,200.00	$840.00	$840.00	$2,157.00	$2,157.00
7	12"x6" MJ Tee	6	EA	$1,160.00	$6,960.00	$930.00	$5,580.00	$700.00	$4,200.00	$830.00	$4,980.00	$1,465.00	$8,790.00
8	12" MJ 45° Bend	4	EA	$1,050.00	$4,200.00	$915.00	$3,660.00	$500.00	$2,000.00	$630.00	$2,520.00	$1,110.00	$4,440.00
9	Fire Hydrant, Gate Valve, Box & Connection	6	EA	$4,100.00	$24,600.00	$5,060.00	$30,360.00	$5,600.00	$33,600.00	$6,025.00	$36,150.00	$6,631.00	$39,786.00
10	Blow-off Assembly, Permanent	1	EA	$1,340.00	$1,340.00	$4,100.00	$4,100.00	$2,400.00	$2,400.00	$2,200.00	$2,200.00	$6,868.00	$6,868.00
11	Blow-off Assembly, Temporary	6	EA	$750.00	$4,500.00	$600.00	$3,600.00	$1,400.00	$8,400.00	$1,320.00	$7,920.00	$2,575.00	$15,450.00
12	3/4" Chlorination Tap	6	EA	$635.00	$3,810.00	$500.00	$3,000.00	$600.00	$3,600.00	$1,250.00	$7,500.00	$1,102.00	$6,612.00
13	Type 1 Service Connections	56	EA	$935.00	$52,360.00	$525.00	$29,400.00	$700.00	$39,200.00	$965.00	$54,040.00	$2,338.00	$130,928.00
14	Type 2 Service Connections	5	EA	$7,730.00	$38,650.00	$9,700.00	$48,500.00	$9,500.00	$47,500.00	$5,425.00	$27,125.00	$12,388.00	$61,940.00

PREPARED BY:
HNTB CORPORATION

February 27, 2018

15	Type 3 Service Connections	1	EA	$9,015.00	$9,015.00	$7,260.00	$7,260.00	$10,800.00	$10,800.00	$7,615.00	$7,615.00	$15,053.00	$15,053.00
16	Water Meter Relocation (Undistributed)	2	EA	$1,960.00	$3,920.00	$1,380.00	$2,760.00	$2,000.00	$4,000.00	$1,760.00	$3,520.00	$5,713.00	$11,426.00
17	Abandon and Grout Fill Existing Casing Pipe	60	LF	$135.00	$8,100.00	$300.00	$18,000.00	$300.00	$18,000.00	$33.00	$1,980.00	$261.00	$15,660.00
18	Compacted Aggregate, No. 53s	412	LF	$4.00	$1,648.00	$12.90	$5,314.80	$12.00	$4,944.00	$16.00	$6,592.00	$26.00	$10,712.00
19	Hot Mix Asphalt, Base 25mm	412	LF	$40.00	$16,480.00	$47.30	$19,487.60	$22.50	$9,270.00	$56.00	$23,072.00	$88.00	$36,256.00
20	Hot Mix Asphalt, Surface 9.5mm	412	LF	$9.00	$3,708.00	$24.40	$10,052.80	$19.00	$7,828.00	$44.00	$18,128.00	$44.00	$18,128.00
21	Concrete Pavement Restoration	40	SY	$73.00	$2,920.00	$164.00	$6,560.00	$90.00	$3,600.00	$81.00	$3,240.00	$198.00	$7,920.00
22	Gravel Shoulder & Drive Restoration	10	SY	$18.00	$180.00	$46.00	$460.00	$35.00	$350.00	$14.00	$140.00	$121.00	$1,210.00
23	Clearing & Grubbing	1	LS	$770.00	$770.00	$1,500.00	$1,500.00	$16,000.00	$16,000.00	$2,500.00	$2,500.00	$37,904.00	$37,904.00
24	Restoration, Grading, and Seeding	1	LS	$25,700.00	$25,700.00	$9,200.00	$9,200.00	$22,400.00	$22,400.00	$21,000.00	$21,000.00	$22,989.00	$22,989.00
25	Construction Engineering	1	LS	$10,430.00	$10,430.00	$4,000.00	$4,000.00	$25,000.00	$25,000.00	$15,000.00	$15,000.00	$23,949.00	$23,949.00
26	Erosion Control Devices	1	LS	$5,385.00	$5,385.00	$1,300.00	$1,300.00	$12,000.00	$12,000.00	$5,000.00	$5,000.00	$17,798.00	$17,798.00
27	Mobilization, Demobilization	1	LS	$25,000.00	$25,000.00	$18,700.00	$18,700.00	$37,300.00	$37,300.00	$37,000.00	$37,000.00	$63,839.00	$63,839.00
28	Maintenance of Traffic	1	LS	$1,730.00	$1,730.00	$4,700.00	$4,700.00	$35,000.00	$35,000.00	$36,000.00	$36,000.00	$26,162.00	$26,162.00
			UNIT PRICE BASE BID	$562,656.00		$610,308.20		$746,304.00		$748,340.00		$1,229,793.00	

Except for any noted errors, I certify that the prices as tabulated above are the same as set forth in the bidders' proposal.

Certified by:

Joseph A. Thais, P.E.
Registered Engineer No. 60910330
State of Indiana

OUCC DR 3-1

DATA REQUEST

City of Evansville
Cause No. 45073

Information Requested:

On page 9 of Mr. Keepes testimony, he discusses the need for a second clear well, in part, to allow for the performance of "maintenance, inspection and repairs." Please describe in detail the type of maintenance, inspection and repairs that Evansville will be performing.

Information Provided:

As detailed in the attached document titled *6 Million Gallon Clearwell Inspection Report Dated May 2, 2011* (OUCC DR 3-1.pdf), the tank end and tank mid-way shell ladders are significantly deteriorated and are not compliant with current Occupational Health and Safety Administration (OSHA) regulations. Replacement of these shell ladders needs to be performed along with the installation of cable-type ladder safety and fall arrest systems. Other interior repairs and maintenance needed are the removal of mortars and overlays. After removal of these mortars and overlays, these surfaces along with existing cracks and honeycombed areas that have developed over the years would be power washed. Then, chemical grout injection would be performed on the cracks, honeycombed areas and rock pockets would be patched, and all of these areas would be filled and sealed to preserve and extend the life of the structure.

Attachment:

OUCC DR 3-1.pdf

PITTSBURG TANK & TOWER CO., INC.

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PAINT*REPAIR*DISMANTLE*INSPECT*TANKS RAISED, LOWERED AND MOVED*NEW & USED

SINCE 1919

Evansville Water Utility
1931 Allens Lane
Evansville, IN 47711
RE: Water Dept
6,000,000 Gallon UG.S.T.
May 2, 2011
Roger Johnson, Project Manager
(812) 421-2120 ext 2204
Job No. 311163

If you would like to speak with Patrick Heltsley concerning this report, call (270) 826-9000, Ext. 253.
For additional copies of this report call (270) 826-9000 Ext. 253.

SINCE 1919
Pittsburg Tank & Tower

Evansville Water Utility
6,000,000 Gallon UG.S.T

Photo shows the tank end access manway. Manway is a street manway with direct access to the water storage area and is allowing the ingress of waterborne contaminants into the watet sysyem. AWWA regulations require a 4" minimum curb and a 2" overlap cover above the roof. We recommend installing a 4" curb with a 2" overlap cover on the street ring.

SINCE 1919
Pittsburg Tank & Tower

Evansville Water Utility
6,000,000 Gallon UG.S.T

Photo shows the tank midway access manway. Manway is a street manway with direct access to the water storage area and is allowing the ingress of waterborne contaminants into the watet sysyem. AWWA regulations require a 4" minimum curb and a 2" overlap cover above the roof. We recommend installing a 4" curb with a 2" overlap cover on the street ring.

SINCE 1919
Pittsburg Tank & Tower

Evansville Water Utility
6,000,000 Gallon UG.S.T

Tank end manway interior shell ladder in above photo is not equipped with non-skid rungs and is seriously deteriorated. We recommend installing an OSHA approved interior shell ladder complete with standoffs every 10' on centers and a cable type ladder safety device.

For adequate fall protection we have recommended a cable type fall arrest system.

SINCE 1919
Pittsburg Tank & Tower

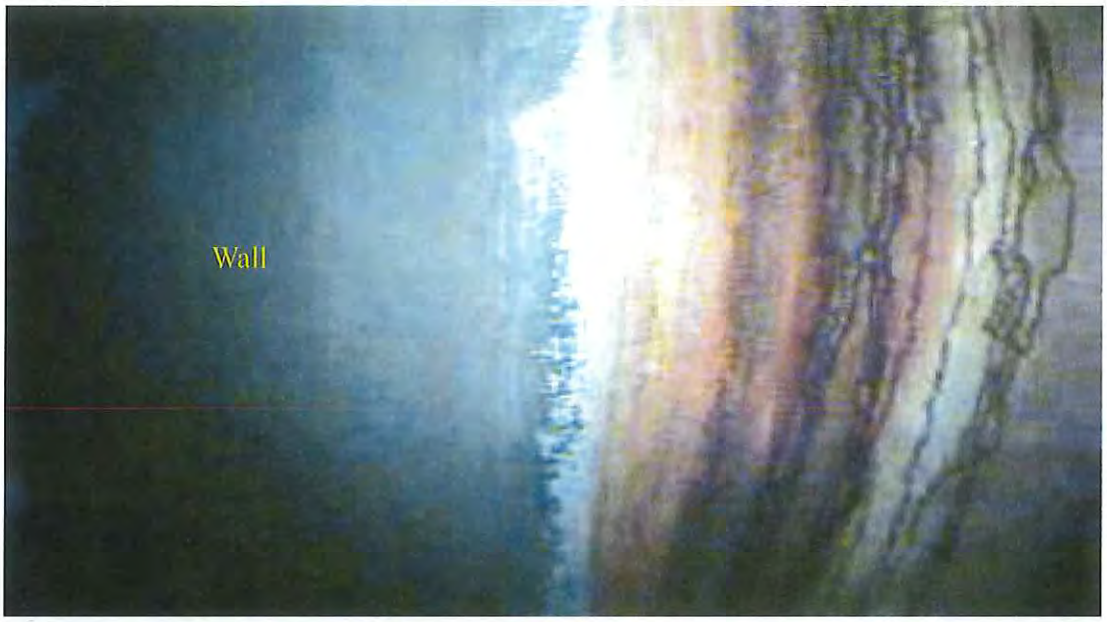
Evansville Water Utility
6,000,000 Gallon UG.S.T

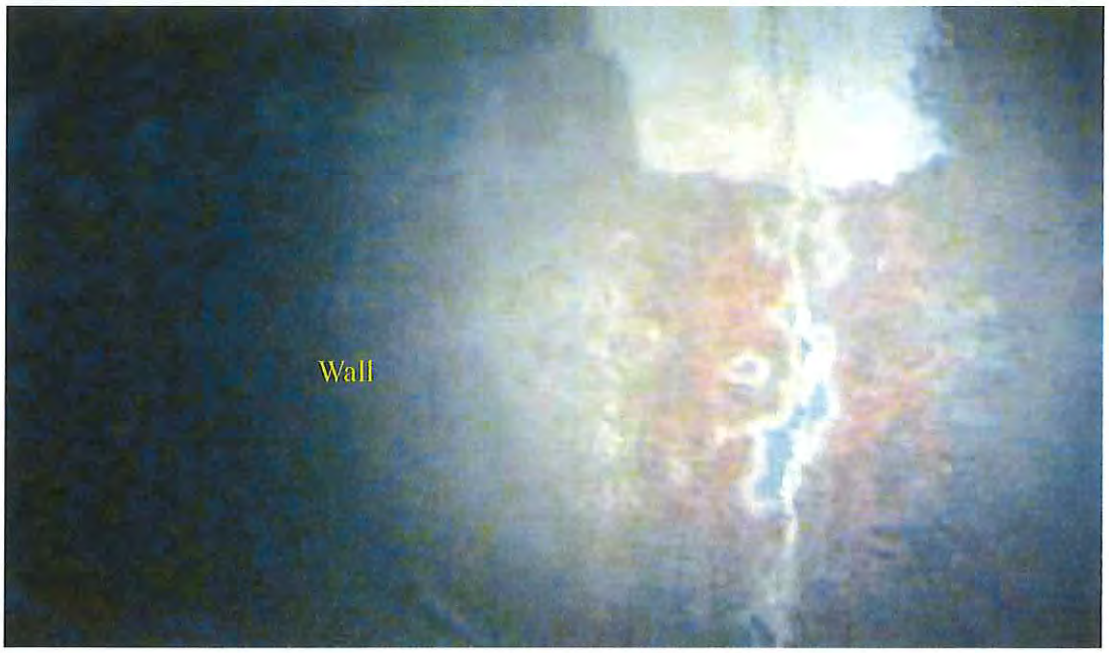
Tank midway manway interior shell ladder in above photo is not equipped with non-skid rungs and is seriously deteriorated. We recommend installing an OSHA approved interior shell ladder complete with standoffs every 10' on centers and a cable type ladder safety device.

For adequate fall protection we have recommended a cable type fall arrest system.

SINCE 1919
Pittsburg Tank & Tower

Evansville Water Utility
6,000,000 Gallon UG.S.T





Photos show the condition of the interior of the tank. We recommend removing all surface mortars or overlays, chiseling cracks and bug holes, pressure washing to clean surface area, cracks and holes, then repairing these areas (as well as rock pockets and honeycombing) with Krystol Bari-Cote. After repairs are made,apply a Kryton T1/T2 waterproof coating. All concrete preparations and product application will be performed to product specifications and will have a ten (10) yr. limited warranty.

SINCE 1919
Pittsburg Tank & Tower

Evansville Water Utility
6,000,000 Gallon UG.S.T

Photo shows sediment and debris in the tank. We recommend that cleaning be performed in order to more accurately determine the condition of the interior floor as well as prevent contamination issues associated with excessive sedimentation buildup.

SINCE 1919
Pittsburg Tank & Tower

Evansville Water Utility
6,000,000 Gallon UG.S.T

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SINCE 1919

UNDERGROUND STORAGE INSPECTION REPORT

JOB NO: 311163 INSPECTOR: Daniel Lindsey

TANK OWNER: Evansville Water Utility

OWNER'S REPRESENTATIVE: Roger Johnson TITLE: Project Manager

MAILING ADDRESS: 1931 Allens Lane

PHYSICAL ADDRESS: 1931 Allens Lane

CITY/STATE: Evansville, IN ZIP: 47711

COUNTY TANK IS LOCATED IN: Vanderburg

TELEPHONE: (812) 421-2120 ext 2204 FAX: (812)421-2116

LOCATION OF TANK: Water Dept

Evansville Water Utility
1931 Allens Lane
Evansville, IN 47711
May 2, 2011
Roger Johnson,
Project Manager
(812) 421-2120 ext 2204

ORIGINAL CONTRACT NO: unavailable YEAR BUILT: unavailable

ORIGINAL MANUFACTURER: unavailable CAPACITY: 6,000,000 Gallon

DATE OF LAST INSPECTION: unavailable TYPE: Potable

LENGTH: 500' + WIDTH: DEPTH:

TYPE CONSTRUCTION: WELDED: RIVETED: CONCRETE: X

ACCOUNT EXECUTIVE: Patrick Heltsley

SINCE 1919

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UNDERGROUND STORAGE CODE UPDATES

Item	Deficiency	Not-Applicable	NFPA 22 2008 Code Numbers as Applicable
Roof Manway(s)	X		AWWA D100-05, section 7.1: Shell manholes
Manway Davit(s)		X	. AWWA D100-05, section 7.1: Shell manholes
Confined Space Entry Signs	X		TSS Sec. 7 7.0.12 Safety OSHA 1910.146 (C) (2): Confined spaces
Shell to Roof Access Ladder		X	AWWA 7.4 Access 7.4.1 Ladders General, 7.4.2.1, 7.4.2.2, 7.4.2.4
Safety Climb Devices		X	AWWA 7.4 Access 7.4.1 Ladders General, 7.4.2.1, 7.4.2.2, 7.4.2.4
Standoffs on 10' Centers		X	AWWA 7.4 Access 7.4.1 Ladders General, 7.4.2.1, 7.4.2.2, 7.4.2.4,
Screen on Overflow		X	AWWA D100-05 section 7.3: Overflow
Interior Shell Ladder		X	AWWA 7.4 Access 7.4.1 Ladders General, 7.4.2.1, 7.4.2.2, 7.4.2.4,

SINCE 1919

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RECOMMENDATIONS

NUMBERS REFER TO REPORT PAGES

00. Install 30" x 30" manway at far end of tank. This will access to whole tank for cleanout purposes.

2. Install a 4" curb with a 2" overlap cover on the street ring

3. Install a 4" curb with a 2" overlap cover on the street ring

4. Install AWWA and OSHA approved shell ladder at end manway
Install a cable type ladder safety climb device

5. Install AWWA and OSHA approved shell ladder at mid manway
Install a cable type ladder safety climb device

6. INTERIOR PAINT SYSTEM: Remove all surface mortars or overlays, chisel cracks and holes, pressure wash to clean surface area, cracks and holes, then repair these areas (as well as rock pockets and honeycombing) with Krystol Bari-Cote. After repairs are made,apply a Kryton T1/T2 waterproof coating. All concrete preparations and product application will be performed to product specifications and will have a ten (10) yr. limited warranty.

   Crack chiseling repair in excess of 100 ft. will be done at a rate of $45.00 per linear foot.

7. Perform cleanout of tank

BASED ON THE NUMBER OF ITEMS ACCEPTED, PRICES MAY VARY.
All prices are in U.S. Dollars
If union labor or prevailing wage is required add 20%
For additional copies of this inspection report call (270) 826-9000 Ext. 253.

The inspection report and comments reflect the general condition of the tank. However, we can not guarantee that additional deficiencies may not become apparent during the cleaning, repair or paint process of the tank.

The handling, removal and/or disposal of hazardous or contaminated materials such as asbestos, lead, chemical or any like substance that requires special handling is not included in the price submitted for work herein. Paint prices do not include logo, lead abatement or containment.

AFFIRMATION

I affirm the representations I made in the foregoing testimony are true to the best of my knowledge, information, and belief.

James T. Parks

By: James T. Parks
Cause No. 45073
Indiana Office of
Utility Consumer Counselor

7/20/18

Date: