Petitioner's Exhibit No. 1

CITY OF SOUTH BEND, INDIANA

IURC CAUSE NUMBER 45719

DIRECT TESTIMONY

OF

ERIC HORVATH

SPONSORING ATTACHMENTS EH-1_THROUGH EH-5

DIRECT TESTIMONY

OF

ERIC HORVATH

Q. Please state your name.

A. My name is Eric Horvath.

Q. What is your position with the City of South Bend?

A. I am the Executive Director of Public Works. In that position, I am responsible for the management and operations of the South Bend Public Works Department with over 260 employees. South Bend Water Works is included within the scope of the Public Works Department. I am therefore responsible for the South Bend Water Utility. South Bend Water Works is a municipally owned utility providing service in and around the corporate limits of the City of South Bend ("South Bend" or "City").

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

A. Yes.

Q. Are you sponsoring any attachments?

A. Yes, I am sponsoring the following attachments:

- Attachment EH-1 – copy of my current Curriculum Vitae.
- Attachment EH-2 – copy of the rate ordinance adopted by the South Bend Common Council authorizing the rate increase being requested in this Cause.
- Attachment EH-3 – copy of South Bend's 5-year Capital Improvement Plan ("CIP") that the City has prepared in coordination with Arcadis, the City's consulting engineers. Page 1 is a list of the projects in our five-year CIP funded by the proposed bonds sought in this Cause. Pages 2-21 provide a summary of each of the projects included in the CIP. The summary for each project includes

the project name, project cost, projected fiscal year allocation, project justification and drivers, project constraints/dependencies and pictures.

- Attachment EH-4 – copy of the 2022 Budget Capital Plan which includes both the bond funded and rate funded projects Petitioner reasonably anticipates completing with the rates and financing authority approved in this case. The total amount of these projects is $53,927,000 as shown at page 14 of Attachment ADH-1 to Alex Hilt's testimony. This document (included at page 1) also includes the anticipated timeline for completing these projects. Also included at Pages 2-22 of this attachment are all of the water capital needs, both funded and unfunded. The total amount of all capital project needs before prioritization is $154,300,000.
- Attachment EH-5 (late filed) – copy of the bond ordinance authorizing the debt issuances being requested in this Cause.

Q. What is the purpose of your testimony?

A. I will sponsor the rate and bond ordinances that have been adopted authorizing the rate increase and debt issuance for which South Bend seeks approval in this Cause. The rate ordinance is attached to my testimony as Attachment EH-2 and the bond ordinance will be late filed as Attachment EH-5. In addition, I will sponsor the CIP that South Bend is seeking to implement with the bond proceeds and the revenues that will be produced by the requested rate increase. The CIP is attached to my testimony as Attachment EH-3.

Q. When were South Bend's existing rates approved?

A. South Bend's existing rates were approved more than four (4) years ago by the Commission's Order dated March 7, 2018, in Cause No. 44951.

Q. Has the length of time without a rate increase caused difficulties for the South Bend water utility?

A. Yes. We need to raise rates in order to fund necessary expenses and a portion of the 5-year CIP. The CIP consists of critically needed improvements in order for the Utility to continue providing safe and reliable service to its customers. As described in the testimony of South Bend witness Alex Hilt, the estimated cost of the identified CIP for 2022 through 2026 is $53,927,000. The bonds being proposed in this Cause will fund 60% of the projects, and, after adjusting for the proposed bond financed projects, the Utility has an average annual cash funded CIP requirement of $3,881,400 for the period 2022-2026. As evidenced by the Rate Report included with Mr. Hilt's testimony as Attachment ADH-1, the Utility is requesting a replacement and improvement allowance of $2,880,581, based on depreciation. This amount is less than the CIP and thus will leave some necessary improvements being delayed. However, the lower funding amount was deemed necessary by the City to come to an agreeable final rate increase with the Common Council and all stakeholders. I should note that the Common Council has voluntarily exercised its discretion to reduce the size of the increase by not funding all of the capital projects at this time. To the extent any other parties identify areas where they would propose a reduction in South Bend's revenue requirements, that reduction should not be proposed from the reduced amount proposed by the Common Council but should be from the total revenue requirement that would include full funding for all projects.

Q. What is the revenue increase that is being sought?

A. The South Bend Council has approved a 7.7% increase. Because of the magnitude, the Council has elected to phase in the increase over two years in two phases. The first phase

("Phase I") is an increase of approximately 3.5%, to be effective upon issuance of an Order in this Cause. The second phase ("Phase II") is an increase of approximately 4%, to be effective twelve months after the first phase.

Q. Does that phase-in cause a delay of implementation of critically needed improvements?

A. There will not be further deferral of critical improvements caused by the decision to phase in rates. The critically needed improvements will progress as planned; however, as I previously described, the ultimate rate and bond issuances the Council has authorized will not completely fund our capital improvements plan. As such, there will still be deferrals, and we will need to make continual decisions about priorities. Later in my testimony I will describe the CIP and the portions of the capital improvement plan that we intend to fund with the rate increase and bond issuances being requested.

Q. Why is South Bend not requesting approval of rates and bonds that will fully fund the capital improvement plan?

A. As it is, we are asking for a nearly 7.7% increase phased in over two years. That is not an insignificant increase, especially given the current economic climate. At this time, the Common Council and Mayor are not willing to increase rates further, because South Bend residents are still trying to recover from the economic distress caused by the pandemic. My task as the Executive Director is to prioritize our needs and implement as much of the CIP that I can with the funds available.

Q. What is driving the prioritization between the projects that will be funded and those that will not be funded?

A. It is, frankly, a determination based upon age, current condition, and critical nature of the assets in question and expectation whether the project can be deferred until rates are next approved.

Q. In Cause No. 44951 you explained South Bend's approach to water main extensions/replacements and hydrant & valve replacements line items of the Capital Improvement Plan. Do you have an update?

A. Yes. South Bend is striving to reach the point where annually one-hundredth of the water mains are replaced, one-fiftieth of the valves, and one-fiftieth of the hydrants. We are making progress toward that goal and have a program in place to test every fire hydrant and replace any that are damaged or need significant maintenance. We also have an annual valve exercising and replacement program to maintain and fix valves. Our system was recently recognized by the Insurance Services Office (ISO) with a fire rating of 1, placing South Bend in the top 1% nationally for fire protection. In order to achieve that outstanding rating, a significant component is related to ensuring an adequate water supply and pressure and regular fire hydrant inspection and replacement. We continue to improve our replacement level, but are still under our goal. If we get to that level, it is estimated we would spend $48,000,000 over the five-year period. We are proposing to fund through rates approximately $3,800,000 of replacements of water mains, valves and hydrants, of which $2,800,000 will be funded by bonds and an additional $1,000,000 will be cash funded. We will use a prioritization model to help us determine when and where mains are replaced.

Q. Is South Bend planning to pursue a Customer Lead Service Line ("LSL") Replacement ("LSLR") Program as part of this Cause?

A. Yes. As part of the bond issuance being proposed in this Cause, the City is planning to pursue grant or other subsidized funding through Indiana's Drinking Water State Revolving Fund ("SRF") Fund program or other sources to replace customer lead service lines throughout the City in conjunction with its water main extensions/replacement program.

Q. Is South Bend seeking approval of its program under Ind. Code § 8-1-31.6?

A. No. I am not a lawyer, but my understanding is that Ind. Code ch. 8-1-31.6 ("Ch. 31.6") only applies to a regulated municipally-owned utility if the utility is seeking to establish a rider to recover the costs associated with the customer LSLRs. The City is not seeking to recover these costs through an adjustment rider. Instead, the City is planning to pay for these costs as part of the total bond issuance being proposed in this Cause to the extent grant funding or interest rate incentives are available through state or federal programs to offset the costs to rate payers.

Q. How does the City plan to identify LSLs for replacement as part of its program?

A. In order to achieve maximum cost efficiencies, the City is planning to identify LSLs for replacement in the following three ways: (1) as part of its main replacement program; (2) if a house has a lead exceedance of 15 ppb; or (3) as part of its customer service line replacement insurance program. Under this third category, if a customer makes a claim for repairs to a service line under the insurance program and if we determine the service line is lead, we will replace the service line rather than repair the leak. Identifying LSLs for replacement in this way will maximize cost efficiencies, labor and other resources. If

the City is already planning to do a main replacement and it discovers a lead service line as part of that project, it makes sense for the City to replace the LSL at that time. The grant funding through SRF or the additional authorized bond proceeds, described below, in this Cause will allow the City to do that.

Q. How many lead service lines does South Bend estimate could be installed on the City's distribution system?

A. We do not have any lead water mains in South Bend, and the City does not own the service lines (which run all the way from the main to the structure). While we do not know the exact number of lead service lines, the City anticipates, based upon ages of homes and structures served, that approximately 60% of the service lines could be lead. The large percentage of lead service lines installed in the system is why the City believes it is so important to include a full inventory and replacement program as part of its 5-year CIP. Replacing lead service lines is critical for protecting the health and safety of South Bend's citizens. Lead exposure is harmful, especially for children, and the only way to eliminate the potential risk of lead exposure caused by lead service lines is to eliminate the lead service lines themselves. I believe it is only a matter of time before lead service line replacement is mandated by the state or federal government. With the funds that could be made available through the SRF Loan Program and the favorable terms, now is the time for us to begin tackling the issue of customer owned lead service lines.

Q. Do you believe it will be more cost effective for the City of South Bend to replace Lead Service Lines under its LSLR Program than for the property owners to replace the portion of the lead service lines owned by them?

A. Yes. South Bend anticipates that its average cost of replacing a service line will be approximately $6,000. This cost includes: planning and scheduling efforts for the water service line replacement; installing a new water service line and retiring the lead service line; coordinating the flushing and sampling of the property owner's water after construction; restoring the construction site; and general coordination and administration. South Bend will achieve significant economies of scale by performing the LSLR as part of its already planned main extension and replacements program and will have access to lead line replacement incentive funds available through programs not necessarily available to individual customers. In contrast, the City anticipates the average customer would spend between $7,000 and $10,000 performing the work itself. The majority of South Bend's customers cannot afford this expense and this is even further reason for the City to undertake the program.

Q. How does the City anticipate funding the LSLR program?

A. The City plans to fund the program through up to $11,785,000 in bond proceeds issued through the SRF Loan Program. As explained in witness Alex Hilt's testimony, the SRF Program offers a reduced interest rate incentive for communities to include lead line replacement as part of their SRF projects. Based on the type and cost of these components, a community may be eligible for improved ranking on the SRF Project Priority List, as well an interest rate as low as 0.00% on its SRF Loan allowing for the additional funding at no true cost impact to rate payers.

Q. Will the City do partial lead replacements as part of its program?

A. No, and the SRF would not allow it. The SRF will only finance complete LSLR projects. Meaning, SRF will only finance projects that replace the entire service line from the public water main to the point which the line connects to the customer's premise plumbing. The City will only do complete LSLRs as part of its program.

Q. Has South Bend developed Rules to operate the program?

A. The City is in the process of formally developing rules for its program. The Water Utility will adopt the formal rules at a later date once it has more fully fleshed out the program and the needs of the customers. Generally speaking, the City intends to: (1) develop a communications plan to communicate with customers and property owners prior to undertaking the LSLRs; (2) require customers to execute a contract prior to participating in the program; and (3) allow customers to opt-out of the program if they choose to decline replacement of their LSL.

Q. You mentioned a bond issuance. Is South Bend also seeking financing authority in this Cause to fund other portions of the CIP?

A. Yes. As discussed in further detail in the Direct Testimony of Alex Hilt, South Bend is seeking authority to issue long-term debt in an amount not to exceed $46,785,000 in this Cause to fund projects in the Capital Improvement Plan that I will summarize below and initiate the LSRL program as discussed above. As previously described, the proposed bonds will fund approximately 60% of the projects in the CIP. South Bend anticipates funding other projects through the depreciation expense recovered through rates to be approved in this Cause.

Q. Please summarize the capital improvement projects South Bend is proposing to finance with long term debt in this Cause.

A. South Bend is proposing to undertake the following projects as outlined and detailed in Attachment EH-3:

(1) Carriage Hills Wellfield. This project involves the addition of a new generator to provide backup power to meet demand and water quality requirements during outages. The new generator will include auto transfer switches. *See* EH-3, "CARRIAGE HILLS WELLFIELD GENERATOR" at p. 2.

(2) Cleveland North Wellfield. This project involves the addition of a new generator to provide backup power to meet demand and water quality requirements during outages. The new generator will include auto transfer switches. *See* EH-3, "CLEVELAND NORTH WELLFIELD GENERATOR" at p. 3.

(3) Cleveland South Wellfield. A new well and well house will be installed. The main producing wells (#1 and #4) were originally installed in 1984 and are losing capacity even after cleaning and rehabilitation. Wells #2 and #3 had impellers trimmed in 2004 when Cleveland North went online as they were braking suction leading to reduced existing capacity. *See* EH-3, "CLEVELAND SOUTH NEW WELL INSTALLATION" at p. 4.

(4) Edison Filtration Plant. The project includes rehabilitation of all eight (8) treatment filters. In addition, the hydrofluorosilicic acid tank will be replaced with a new tank and containment added. The current outdated PLCs will also be upgraded to 5000 platform with HMI and programming. A new drain pit pump and motor with variable frequency drive will be added. Backwash Pump #2 and High Service Pump #4 both will

be refurbished and their motors will be replaced. *See* EH-3, "EDISON FILTRATION PLANT IMPROVEMENTS" at p. 5.

(5) North Station Filtration Plant. Blower motors, Sludge Pump #1 and #2 and Recycle Pump #1 and #2 will be replaced. Current PLCs will be upgraded to 5000 platform with HMI and programming. A new dehumidification unit for equipment protection will be added as the existing unit is obsolete and no spare parts or support from manufacturer is provided. Cleaning of Well #3A and #5A. *See* EH-3, "NORTH STATION FILTRATION PLANT IMPROVEMENTS" at p. 6.

(6) Olive GAC Plant. This project includes roof replacement of GAC building, and Well #1 well house. The GAC media which removes Volatile Organic Compounds ("VOCs")/Synthetic Organic Compounds ("SOCs") will be reactivated/replaced in all 12 vessels and is needed for water quality/regulatory compliance. A new dehumidification unit for equipment protection will be added as the existing unit is obsolete. Well #2A and #5 at Olive Plant will also be inspected and cleaned. In addition to inspection and cleaning, the project includes well pump refurbishments and motor replacements to the inverter duty motor with addition of a new variable frequency drive ("VFD") for Well #2A. *See* EH-3, "OLIVE GAC PLANT IMPROVEMENTS" at p. 7.

(7) Pinhook Filtration Plant. This provides for the refurbishment of Drain Pump #1 and #2 and replacement of the pre-chlorination feed lines. This project also involves the addition of a new generator to provide backup power to meet demand and water quality requirements during outages. The new generator will include auto transfer switches. *See* EH-3, "PINHOOK FILTRATION PLANT IMPROVEMENTS", at p. 8.

(8) South GAC Plant. This project involves the reactivation of the granular activate carbon absorption media necessary for removal of regulated VOCs for water quality and regulatory compliance, installing new chlorine scrubbing, and chemical feed line replacement to address aging piping. This project also involves the addition of a new generator to provide backup power to meet demand and water quality requirements during outages. The new generator will include auto transfer switches. *See* EH-3, "SOUTH WELLFIELD GAC PLANT AND DISTRIBUTION MAIN IMPROVEMENTS" at p. 9.

(9) Fellows Reservoir and Booster Station. The existing station will be demolished, and a new station will be constructed on the existing site. This includes a new building, new pumps, new generator and transformer, and new flow meters/valves and VFDs. This project also involves tank inspection, cleaning, and miscellaneous repairs. Divers will perform the inspection as the tank has to remain in service. *See* EH-3, "FELLOWS BOOSTER STATION REPLACEMENT& TANK INSPECTION" at p. 10-11.

(10) Ireland Tank and Booster Station. This project involves several upgrades to the Ireland Tank and Booster Station including rehabilitation of the tank, refurbishment of Pump #1, #2 and #3, replacement of motors for Pump #1, #2 and #3 and installation of a new generator and auto transfer switches. *See* EH-3, "IRELAND TANK REHABILITATION AND BOOSTER STATION IMPROVEMENTS" at p. 12.

(11) Locust Booster Station. This project includes the design and construction of a new Pump #3. This project also involves the addition of a new generator to provide backup power to meet demand and water quality requirements during outages. The new

generator will include auto transfer switches. *See* EH-3, "LOCUST BOOSTER STATION PUMP NO. 3 ADDITION" at p. 13.

(12) SR 23 Booster Station. A new cathodic protection system will be installed, Pump #1 and #2 will be refurbished, Pump #1 and #2 motors will be replaced, and new variable frequency drives will be installed. This project also involves the addition of a new generator to provide backup power to meet demand and water quality requirements during outages. The new generator will include auto transfer switches. *See* EH-3, "SR23 BOOSTER STATION IMPROVEMENTS" at p. 14.

(13) Topsfield Booster Station. This project involves the installation of a cathodic protection system to protect from further corrosion. Preventing further corrosion is necessary for improving reliability for the station. *See* EH-3, "TOPSFIELD BOOSTER STATION CATHODIC PROTECTION" at p. 15.

(14) Winterberry Booster Station. This project involves the installation of a cathodic protection system to protect from corrosion. Preventing further corrosion is necessary for improving reliability for the station. The booster station will also have a new generator installed to provide backup power to meet demand and water quality requirements during outages. The new generator will include auto transfer switches. *See* EH-3, "WINTERBERRY BOOSTER STATION CATHODIC PROTECTION" at p. 16.

(15) Northwest Elevated Tank. This project includes rehabilitation of the Northwest Elevated Tank including tank improvements such as exterior cleaning and painting, wet interior roof repainting, pit piping repainting, installation of a painters railing and cathodic system replacement for maintenance and corrosion control, and rebuilding of the 12-inch check valve for flow control. *See* EH-3, "NORTHWEST

ELEVATED TANK IMPROVEMENTS" at p. 17.

(16) South Wellfield Distribution Main. A new water main will be installed to allow water delivery directly to the South pressure zone. *See* EH-3, "SOUTH WELLFIELD GAC PLANT AND DISTRIBUTION MAIN IMPROVEMENTS" at p. 9.

(17) Lathrop Distribution Plant – Portage to Bendix. This project provides for the installation of 4,100 linear feet of 12-inch ductile iron pipe to replace undersized pipe. New pipe will also be added from west of Olive to Bendix Drive. This loop provides increased flow and redundancy. *See* EH-3, "LATHROP DISTRIBUTION MAIN – PORTAGE TO BENDIX" at p. 18.

(18) 30th Street & Green Lawn Avenue Main Replacement (RR Crossing). This project provides for the replacement of two broken 6-inch mains crossing the railroad at 30th Street and Green Lawn Avenue. *See* EH-3, "30TH STREET AND GREENLAWN AVENUE MAIN REPLACEMENT" at p. 19.

(19) Douglas Water Main. Installation of 2,000 linear feet of new ductile iron water main, hydrants, and valves to accommodate future development along Douglas Road between Burdette and Ironwood Road. *See* EH-3, "DOUGLAS DISTRIBUTION MAIN" at p. 20.

(20) Water Main Extensions/Replacements. This project primarily includes replacement of old cast iron water mains Replacement of critical distribution system mains is required to address aging infrastructure and to improve operability, reliability, customer satisfaction and reduce risks. Proactive water main replacements are critical to restore the existing infrastructure before failure. This item also includes an allowance for water main extensions. The replacement of old water mains will necessitate the

replacement of lead service lines to the structures as well at the time of reconstruction. *See* EH-3, "WATER MAIN EXTENSION AND REPLACEMENTS" at p. 21.

Q. Are the projects to be financed reasonably necessary for the provision of reasonable and adequate service?

A. Yes. All of the projects identified in the CIP are driven by the need for reliability, redundancy and resiliency, or water quality and regulatory compliance. Further, South Bend believes the capital improvements it is proposing to make in this Cause are consistent with State policy encouraging utilities to proactively manage and upgrade their assets. In addition, there are a number of other factors beyond replacing aging infrastructure that are driving South Bend's capital improvement plan. South Bend is always looking to help attract economic development into the community, and making improvements to the water utility will certainly help attract and foster economic development moving forward.

Q. Are the costs for each project in the capital improvement plan precise, final costs?

A. No. While South Bend made a good faith attempt to provide accurate estimates, we will not know the actual costs until we proceed with final engineering and bidding of each project. We have recently witnessed increased project costs due to inflation.

Q. Is it possible that priorities could change over the next five years such that other projects could be prioritized over the current projects South Bend is proposing?

A. Yes. The projects we are proposing in this Cause are the projects we believe, sitting here today and based on consultation with our engineers, are required to address the immediate needs of the Utility. However, as circumstances change over the next five years, it is possible that other projects will need to be substituted for those that we are

presently planning. It is also possible that projects could be advanced or delayed depending on need and the availability of funds at any given time. Further, it is possible that priorities may change as we deal with material availability issues as our state and the country continue to come out of the COVID-19 pandemic. These decisions will be made on an annual basis as development proposals and other factors influence our capital planning.

Q. Beyond South Bend's Capital Improvement Plan are any other costs of the Utility driving the need to increase rates and charges?

A. Yes. As described in greater detail in Alex Hilt's testimony and the Rate Report, there are additional operations and maintenance ("O&M") expenses the Utility has incurred which are driving the need for the rate increase at this time.

Q. Has South Bend communicated with customers and citizens about the proposed rate increase?

A. Yes. South Bend engaged in extensive public outreach leading up to this case and will continue to do so throughout the course of this proceeding. Between June 21, 2021 and August 9, 2021, we held four public meetings, in-person and virtually, that customers could attend to learn more about the proposed rate increase and give their feedback. We also mailed over 4,700 letters to county customers notifying them of the proposed increase and the dates/times of the public meetings. The local TV news stations and the local newspaper (South Bend Tribune) also covered the story numerous times throughout the process. We will provide general or targeted specific rate adjustment information to our customers through meetings, direct communications, on our website, and by other means.

Q. Does this conclude your direct testimony?

A. Yes, at this time.

VERIFICATION

I, Eric Horvath, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Eric Horvath

Date: 5/5/2022

EDUCATION

UNIVERSITY OF NOTRE DAME, NOTRE DAME, IN
Master of Science Administration, 2001

UNIVERSITY OF NOTRE DAME, NOTRE DAME, IN
Bachelor of Science, 1993
Civil Engineering

UNIVERSITY OF NOTRE DAME, NOTRE DAME, IN
Bachelor of Arts, 1993
Psychology

PROFESSIONAL EXPERIENCE

CITY OF SOUTH BEND **DECEMBER 2012 – PRESENT**
Executive Director of Public Works

Responsible for the management and operations of the South Bend Public Works Department with over 260 employees, a $65 million per year enterprise, and implementation of a $ 40-50 million per year capital improvement program. Public Works includes Engineering, Traffic and Lighting, Street Department, Water Works, Wastewater Utility and other Environmental Services including Municipal Solid Waste, and Organic Resources Recycling.

South Bend Smart Streets Initiative
Led the initiative to create safer, more efficient transportation by creating new two-way traffic patterns that better accommodate motorists, transit riders, cyclists and pedestrians. The project incorporates new curbs, sidewalks, bike paths, street lights, and trees. It also enhances the overall quality of life by contributing to a more vibrant atmosphere and attracting economic development. Over $200 million dollars of private development has been announced in downtown since the start of this initiative, which is the greatest level of development in downtown over the past 50 years.

South Bend Long Term Control Plan Reevaluation
South Bend has an existing federal Consent Decree mandating over $700 million of capital improvements to the combined sewer system over the next 20 years. Directed the effort to utilize the City's smart sewers and a cognitive hydraulic response neural network to use existing data on the sewer system to inform a two year value engineering of the existing plan. Overall savings of the revised long term control plan is over $420 million.

UNIVERSITY OF NOTRE DAME **JANUARY 2013 – PRESENT**
Adjunct Associate Professor

Teach CE 40701 and CE 40702 Senior Design course. This capstone civil engineering course teaches students real-life design experience on integrated multi-disciplinary civil engineering projects throughout

the community. The students work as consultants in a two semester course that culminates in final design plans and specifications for their specific project.

AMERICAN STRUCTUREPOINT **JUNE 2006 – DECEMBER 2012**
North Regional Services Manager

Responsible for managing the administration and operations of the northern regional office of American Structurepoint

Extensive experience in water, sewer, transportation, and environmental engineering design, as well as financial management and budgetary control.

Responsible for new business development, client relations, and leading a regional production staff.

Energy Efficiency and Conservation Plan, South Bend, Indiana
Served as Principal-In-Charge to assist the City of South Bend and their Green Ribbon Commission in writing their Energy Efficiency and Conservation Strategy and their Climate Action Plan. The City's goal is to reduce carbon emissions by seven percent by 2012. American Structurepoint took input and energy-saving ideas from City staff and members of the commission, researched the effectiveness and feasibility of each proposed strategy, and generated a completed strategy document that was used to obtain the rest of the grant funding. The completed strategy included recommendations and data for: existing building envelope improvements; hydro-electric feasibility studies and pilot projects; traffic/pedestrian signal optimization; community gardens; bicycle network improvements; and a green building marketing/public education campaign.

Kennedy Park Sewer Separation, South Bend, Indiana
The Kennedy Park Sewer Separation project eliminated the stormwater flow from the previous combined sewer system, which caused numerous basement backups and contributed to combined sewer overflows downstream of the neighborhood. Design of the new storm sewer system used low-impact development (green) solutions, including rain gardens, bioretention areas, underground infiltration basins, and curb turnouts with swales. By using this mixture of green solutions, American Structurepoint was able to greatly decrease the pipe sizes and lengths required for the storm sewer, which helped offset the costs for the infiltrator basins, plantings for the bioretention areas, and increased pavement removal to maintain positive drainage.

Combined Sewer Sub-Basin Capacity Improvement, Fort Wayne, Indiana
American Structurepoint performed preliminary engineering services to minimize the number of combined sewer overflow (CSO) events from these 325- and 200-acre sub-basins to conform to the City's Consent Decree with the EPA. American Structurepoint established the most cost-effective means of eliminating CSO from the sub-basins and ascertained the estimated costs to implement the improvements. Services included acquisition and evaluation of existing information; hydraulic modeling of the sub-basins; topographic survey to supplement the hydraulic model; identification and evaluation of potential rehabilitation, storage, and treatment technologies, including construction and O&M costs; and a report summarizing the analysis and conclusions.

Cleveland Road and Bittersweet Road Roundabout, St. Joseph County, Indiana
This LPA project included the reconstruction of the existing 4-way, stop-controlled intersection at Bittersweet Road with Cleveland Road as a modern roundabout and widening of Cleveland Road to a 5-

lane section approaching the intersection. The project also included the replacement of two culverts conveying Juday Creek under the west and north approaches. Major work elements included full-depth pavement reconstruction, curb and gutter construction, roundabout lighting, and drainage swale grading along the length of the project. The scope also included a categorical exclusion to assess socioeconomic and environmental impacts of the project and a cold-water drainage system to protect the salmonoid stream crossing.

Cass Avenue Stormwater, Evansville, Indiana
This project is part of Evansville's Long-Term Control Plan and provides sewer separation and resolution of flooding issues in an existing suburban area in southeast Evansville. The project includes modeling the proposed stormwater system to evaluate the effects of the configuration and pipe sizes to optimize the design. It also includes the design of about 8,000 feet of 72 and 84-inch storm sewer and 23,000 feet of smaller storm sewers within the project's neighborhoods, and the installation of new sanitary sewers to collect the separated sewer flows and a sanitary lift station. The 30 percent study/design phase established the selected alternatives, and it included a value engineering analysis that yielded approximately $1.5 million in estimated construction cost savings over the originally selected project alternative. The total estimated construction cost of this project is $16.5 million.

East Chicago Water Filtration Plant, East Chicago, Indiana
Served as project manager, lead design engineer, and responsible for leading the value engineering effort. This project involved design and construction of a new membrane filtration plant to replace an existing 24-million-gallon per day (MGD) conventional water treatment plant that was obsolete and in disrepair. The new 17 MGD, pressure membrane water treatment plant has a hydraulic capacity of 30 MGD. The new treatment plant can easily be expanded and address the more stringent effluent limitations that are anticipated. Through the value engineering process, the team was able to effectively reduce the construction cost from $65 million to $44 million without compromising the quality, reliability, or integrity of the project.

Long-Term Control Plan Development and Financial Management, Elkhart, Indiana
Directed the development of the City's Long-Term Control Plan and coordinated efforts of numerous consultants for this project both as a City employee and Structurepoint employee. Lead the City of Elkhart in negotiating with the USEPA and Department of Justice to determine the level of control and timeframe to complete an abatement program for their combined sewer overflows. Helped create a Long-Term Control Plan that met the requirements of the EPA and the financial constraints of the City. The project also involved developing a 20-year capital improvement plan and a financial schedule and strategy that allows the City to fund this plan despite its current severe economic hardship.

Prairie Street Grade Separation over Norfolk Southern Railroad, Elkhart, Indiana
This project will construct a new bridge to carry traffic lanes on Prairie Street over the Norfolk Southern railroad with approximately 0.91 mile of new roadway and bridge alignment. The new structure will be a single-span, composite, welded plate girder structure with a span of 141'-0". A second bridge will be added to serve as a pedestrian bridge, paralleling the existing bridge so pedestrians can safely cross over the railroad tracks instead of at grade. The Prairie Street overpass will reduce delays associated with the at-grade crossing of the railroad mainline tracks, which carry approximately 100 trains per day. The separation will also provide significant safety benefits by reducing vehicle/train conflicts and providing unobstructed emergency vehicle response from north to south through the city.

Mishawaka Screw Pump Lift Station and Inverted Siphon, Mishawaka, Indiana
A 36-inch combined sewage gravity sewer needed to be lowered to make way for a new underpass at SR 331 in Mishawaka. The City of Mishawaka and the Indiana Department of Transportation desired a cost-effective, low-maintenance solution to meet that need. They requested the use of an inverted

siphon to convey the flow, but there was not enough available head from the existing pipe to allow the siphon to operate. American Structurepoint developed a unique solution by combining an inverted siphon with a low head, high flow screw pump. The screw pump was the most cost effective method to provide the necessary head and was built to be expandable to a future flow of 9.5 MGD. This project produced an estimated savings of over $1 million compared to a more traditional pump station and force main approach.

Southern Area Sewer Master Plan, Fort Wayne, Indiana
The Southern Area Sanitary Sewer Master Plan study area was comprised of 23 distinct development areas or "cells". Flow projections for each cell were developed after coordination with the City of Fort Wayne's Utilities Department as well as representatives with the City's and County's Planning Commissions. The purpose of the study was to determine the expected future flow demands and build out conditions from the study area for the year 2030, to identify general infrastructure requirements for conveying and treating future flows, and to provide planning level budgets for sanitary service to the study area.

Warfield Relief Sewer, Fort Wayne, Indiana
Principal-In-Charge for the design and construction of a new 30-inch relief sewer constructed parallel to the City's existing Warfield Relief Interceptor. This Interceptor was experiencing sanitary sewer overflows that, according to the City's Consent Decree with EPA, needed to be eliminated to meet the requirements of the Consent Decree. The City completed flow monitoring and XPSWMM model development of the Interceptor to determine the relief sewer sizing and connection point locations. The design included the installation of the 30-inch relief sewer as well as replacement of existing undersized interceptor sewer, installation of a casing pipe under US 27, construction of two siphons, and associated utility coordination and land acquisition services. The estimated cost of the improvements is $2.5 million.

CITY OF ELKHART, IN **FEBRUARY 2000 – JUNE 2006**
Public Works & Utilities Director
City Engineer

Directed the Public Works Department of the City of Elkhart with a staff of 150 employees and an annual operating and capital budget of over 34 million dollars. Accountable for the finances and administration of the Elkhart Municipal Airport, Water Utility, Wastewater Utility, and all City Environmental and Transportation Engineering.

Directed, supervised, and participated in the planning, design, specification writing, bidding, construction, quality control, and inspection of all capital improvement projects, including building renovations and large, complex sewer, water, and transportation infrastructure projects. Monitored construction and operation costs and implemented procedures to reduce budget and improve overall performance.

Worked with businesses and developers on water, sewer, and transportation infrastructure to encourage smart economic growth and development and enhance the local tax base. Recommended public policy and strategy and implemented resultant projects and programs.

Directed and administered the long-range capital improvement plans, including 25-year Transportation Improvement Plan, Water Master Plan, Wellhead Protection Plan, MS4 Stormwater Plan, Wastewater Comprehensive Facility Plan, and the Long-Term Control Plan for CSO abatement.

Managed and operated the City Water Utility responsible for delivering over ten million gallons of clean, safe drinking water each day to over 60,000 customers. Responsible for the operation and maintenance of three wellfields and 320 miles of water mains.

Directed the operation and maintenance of the City Wastewater Utility, including 270 miles of sewer mains and 30 million GPD wastewater treatment plant that received an award from the United States Environmental Protection Agency for being the best advanced treatment plant in a six-state area.

Ensured permit compliance and process control for safe drinking water and federally mandated pretreatment programs.

CITY OF ELKHART, IN **FEBRUARY 1997 – FEBRUARY 2000**
Civil & Environmental Engineering Services Manager

Managed, supervised, and evaluated a staff of 41 employees in engineering services, environmental services, and building maintenance areas. Provided guidance, promoted professional atmosphere, and mentored staff to advance employee performance and morale.

Planned, designed, and managed construction and inspection of infrastructure development and public works projects. Projects included building rehabilitations, environmental remediations, urban beautifications, sanitary sewer, water main and storm sewer extensions, road and traffic signal improvements, and complete revitalization designs.

Promoted integrity and a commitment to excellence in all City operations to ensure the proper safeguarding of assets, promote efficiency in operations, and identify potential cost savings for the City. Provided budgetary management and financial control of engineering services, environmental services, and building maintenance areas. Presented and implemented recommendations for continuous improvement to management.
Administered environmental regulatory affairs for the City as they relate to air, land, and water quality issues. Directed plan review and approval, record maintenance, and technology development. Managed Elkhart's Groundwater Modeling Program and Geographic Information System.

Worked with citizens, developers, and other units of government to provide a high level of customer service and on-going assistance.

CITY OF ELKHART, IN **MAY 1993 – FEBRUARY 1997**
Environmental Engineer

Managed the Elkhart Environmental Center's education and research programs, habitat enhancement activities, professional support services, and other environmental services. Developed and directed the Elkhart EnviroCorps, a local community service program dedicated to preserving, protecting, and enhancing the environment.

Administered the City's integrated municipal solid waste program. Revised specifications to enhance level of service of solid waste disposal, recycling, and white goods programs, which resulted in over a million dollars in savings for the City.

Coordinated Elkhart's Brownfields Redevelopment Initiative to revitalize urban distressed properties and encourage economic redevelopment.

PROFESSIONAL AFFILIATIONS

- **American Society of Civil Engineers**
- **American Public Works Association**
- **National Association of Clean Water Agencies**
- **Water Environment Federation**
- **American Water Works Association**
- **Indiana Association of Cities & Towns**
- **Indiana Water Environment Association**

CITY OF SOUTH BEND
DEPARTMENT OF PUBLIC WORKS

August 4, 2021

Ms. Karen White, President
South Bend Common Council
227 West Jefferson Boulevard, Room 400
South Bend, Indiana 46601

Re: Substitute Bill No. 101-21 Amending Sections of the Municipal Code to Provide a Comprehensive Adjustment to Rates for South Bend Utilities Customers

Dear Council President White:

Attached is a substitute bill for consideration by the Common Council addressing rates for South Bend Utilities Customers in the City's furnishment of Refuse, Sewer, Water, Storm Water, and the Low-Income Customer Assistance Program. The newly proposed changes to the ordinance were designed to reflect input from the Common Council as well as from the public.

This ordinance still maintains a sustainable, multi-year plan that meets the operational and capital needs of South Bend utilities by gradually adjusting rates to generate sufficient cash flow. The following is a summary of the main changes that are included in the attached amended ordinance:

- Delay solid waste increases until 2022
- Addition of a major appliance pick-up program
- Minor clarifications on yard waste items allowed in containers versus yard waste extra pick-up
- Delay yard waste increases until 2022
- Remove $0.87 increase from sewage charge for the Customer Assistance Program (CAP) and replace with $0.43 increase phased in over 2023-2025($.14 in 2023, additional $.14 in 2024, additional $.15 in 2025)
- Decrease CAP credit from 50% increase to 25% increase and add a fourth tier for 60% to 80% of area median income
- Improvements to the CAP program administration to make it easier for residents to get qualified
- Delay residential stormwater increases by one year

- Recodifying Section 17-81 to Section 17-21 where it was intended to be located when adopted in 2016

Also attached, for your convenience, is a copy of the substitute bill showing in color those changes that were made to the originally filed ordinance. I look forward to discussing these changes at the Council's Committee meeting. Please let me know if you have any questions. As always, I appreciate your consideration of this amended ordinance.

Sincerely,

Eric C. Horvath
City of South Bend
Executive Director Public Works

SUBSTITUTE BILL NO. 101-21

ORDINANCE NO._____

AN ORDINANCE OF THE COMMON COUNCIL OF THE CITY OF SOUTH BEND, INDIANA, AMENDING VARIOUS SECTIONS OF THE SOUTH BEND MUNICIPAL CODE WITHIN CHAPTER 16 AT ARTICLES 1 AND 2 AND WITHIN CHAPTER 17 AT ARTICLE 2, DIVISION 4; ARTICLE 4, ARTICLE 14, AND ARTICLE 15 TO PROVIDE A COMPREHENSIVE ADJUSTMENT TO RATES FOR SOUTH BEND UTILITY CUSTOMERS IN THE CITY'S FURNISHMENT OF REFUSE, SEWER, WATER, STORM WATER, AND THE LOW-INCOME CUSTOMER ASSISTANCE PROGRAM

STATEMENT OF PURPOSE AND INTENT

The purpose of this comprehensive rate adjustment is to provide a multi-year plan that meets the operational and capital needs of South Bend utilities by gradually adjusting rates to generate sufficient cash flow. The increases are based on the recommendations of a comprehensive utility long-term rate plan commissioned by the City.

The amendments to various sections of Chapter 16, Articles 1 and 2 of the South Bend Municipal Code are meant to offer clarity regarding the City's Solid Waste operations as well as offer a new rate structure for all customers.

Several new definitions have been added to Chapter 16, Article 1. Monthly rates for collection of residential refuse are increased to cover costs. Other Sections of Chapter 16 have been amended consistent with changes to the definition Section and to clarify how refuse is to be handled by residential occupants for pick-up by the City.

In Chapter 17, Articles 2 & 4, rates for water and sewer services are increased per the recommendations of the comprehensive rate study. The changes to the water rates will be subject to approval of the Indiana Utility Regulatory Commission ("IURC"). Chapter 17, Article 10, Section 17-81 is recodified as Chapter 17, Article 2, Division 4, Sec. 17-21 (d) where it was intended to be located when adopted in 2016.

In Chapter 17, Article 14, the stormwater utility will transition to a hybrid system with residential customers being charged a flat fee with minor adjustments over time while non-residential customers will have a multi-tiered impervious area-based rate. This will better align costs with customers generating larger amounts of runoff.

In Chapter 17, Article 15, the Low-Income Customer Assistance Program surcharge will be increasing on a graduated basis and larger discounts will be provided to qualified customers.

This ordinance is necessary for the effective, efficient operation of the City's refuse, sewer, water, and storm water utilities. A comprehensive adjustment of the rates provides customers with better understanding of the totality of services that comprise their utility bills and the integration of all services. This ordinance is in the best interest of the City and its citizens.

NOW, THEREFORE, BE IT ORDAINED BY THE COMMON COUNCIL OF THE CITY OF SOUTH BEND, INDIANA as follows:

SECTION I: REFUSE

Chapter 16, Article 1, Section 16-1 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

ARTICLE 1. - ADMINISTRATION OF CHAPTER

Sec. 16-1. - Definitions.

(a) As used in this Chapter:

(1) *Dirt* means natural soil, earth and stone;

(2) *E-Waste* means electronic waste such as televisions, computers, monitors, laptops, tablets, desktops, e-reader, fax machines, copiers, peripherals (including keyboards, mice, external hard drivers, printers, copiers, projectors, and any other devices that are sold exclusively for external use with a computer and provide input into or output from a computer), DVD players, gaming systems, digital photo frames, digital media players, iPods/MP3 players, camcorders/cameras, DVR/TiVo devices, cable boxes, satellite boxes, GPS navigation systems and appliances that plug into an outlet. These items are not permitted for disposal at a refuse facility (landfill or transfer station).

(3) *Free Liquids* means liquids which readily separate from the solid portion of waste. (paint, oils, grease, juice from a solid) This type of waste is not permitted for disposal at a refuse facility (landfill or transfer station).

~~(2)~~ (4) *Garbage* means putrescible animal solid, vegetable solid and semi-solid wastes resulting from the handling, preparation, cooking and consumption of food, excluding human excreta;

~~(3)~~ (5) *Groundwater* means any supply of water beneath the undisturbed surface of the earth in any natural geological formation;

~~(4)~~(6) *Incineration* means a process of reducing combustible wastes to inert residue by high temperature burning;

~~(5)~~(7) *Litter* means garbage, refuse and trash, and all other waste material, which, if thrown or deposited, tends to create a danger to public health, safety or welfare or tends to reduce the quality of life aesthetically for surrounding residents;

(8) *Major Appliances* (also referred to as white goods) include large household appliances such as: air conditioners, dishwashers, clothes dryers, freezers, refrigerators, dehumidifiers, kitchen stoves, water heaters, washing machines, and microwave ovens.

~~(6)~~(9) *Person* means cities, villages, townships, counties and other governmental agencies, corporations, companies and both municipal and private associations, partnerships, individuals and authorities;

~~(7)~~(10) *Residential refuse* means refuse generated by or emanating from single-family dwellings and/or multifamily dwellings containing a maximum of four (4) separate living

or apartment units per dwelling; provided, however, that this term shall not include refuse generated by a multifamily dwelling that is physically a part of a larger commercial apartment complex;

~~(8)~~(11) *Refuse* (also referred to as solid waste) means garbage, trash, yard waste or any combination thereof;

~~(10)~~(12) *Sanitary landfill* means a controlled method of refuse disposal providing compaction and covering daily of the refuse;

~~(10.5)~~(13) *Specialized collection services* means the collection of residential refuse from other than the curbside or alleyside.

~~(11)~~(14) *Surface water* means any body of water whose top surface is exposed to daylight including flowing bodies as well as ponds and lakes;

(15) *Transfer Station* means facilities where solid waste, mainly municipal solid waste, is unloaded from collection vehicles or containers for reloading into larger, long-distance vehicles for transport to landfills or other permitted solid waste facilities for final disposal.

(16) *Trash* means non putrescible solid waste consisting of both combustible and noncombustible waste such as paper, cardboard, tin cans, wood, glass, ashes, bedding, crockery, metal and similar materials, but excluding dirt, stones, plaster, concrete, building materials, dangerous materials such as poisons, acids, caustic or infected materials and animal offal;

~~(12)~~(17) *Yard waste* means leaves, plants, weeds, grass clippings, ~~or shrubbery cuttings, tree limbs of a diameter of less than six (6) inches,~~ twigs, small branches ~~of a diameter less than one (1) inch~~ and other organic refuse arising from the care of lawns and yards.

(Ord. No. 8436-93, § I)

Sec. 16-3. - Board of Public Works—Purchase of equipment personnel; landfill areas, recycling and resource recovery facilities.

(a) The Board of Public Works shall have the authority to purchase such equipment and employ such personnel as may be necessary to carry out the provisions and intent of this Chapter.

(b) The Board may lease, build, contract for, rent or purchase the necessary land and facilities to be used as ~~landfill areas,~~ disposal facility, transfer station and recycling or resource recovery facilities.

(Ord. No. 8436-93, § I)

A. Chapter 16, Article 2, Section 16-6 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

ARTICLE 2. - COLLECTION AND DISPOSAL

Sec. 16-6. - Collection of residential refuse; exceptions; fees.

(a) The City shall have exclusive jurisdiction over and the exclusive right to control the collection and disposal of residential refuse within the boundaries of the City of South Bend. The City may exercise its exclusive jurisdiction and right to control residential refuse by providing collection and disposal services itself, or the City may, through its Board of Public Works, contract with or formally permit others to provide collection and disposal services on its behalf. No residential refuse, as defined in this Chapter, shall be collected or disposed of except by the City or by a person or company under contract with or permitted by the City to provide such services. The City, in its sole discretion, may also provide collection and disposal of residential refuse outside City boundaries where other City utilities such as water and/or sewer services are provided. Such areas shall be selected at the discretion of the Director of Public Works based on factors including, density of residential structures, proximity to the City boundary and operational capacity of the Division of Solid Waste. Where economy of scale is lacking or cost of providing service exceeds revenue, provision of residential refuse services outside City boundaries generally is not recommended.

(b) Exceptions and exemptions:

(1) Nothing in this Chapter shall prevent any person who generates or produces residential refuse on property owned or leased by such person from separating recyclable materials from such residential refuse and either; (1) maintaining title to such recyclable materials for their own use; or (2) disposing of such recyclable materials by participating in a recycling program; or by sale or gift; provided, however, that such separation and disposition neither creates a public nuisance, nor is otherwise injurious to the public health, welfare and safety.

(2) Nothing in this Chapter shall prevent the removal from residential premises of discarded building materials, trees, brush and other vegetation resulting from the activities of building contractors, commercial tree trimmers or commercial lawn services; provided, however, that such residential refuse so removed that falls within the definition of yard waste shall either be disposed of at the City's Organic Resource Facility as provided in article 4, below, collected by the City or shall be otherwise recycled in a manner approved by the Director of the Department of Public Works.

(c) The City shall charge the owner or occupant of each occupied residence within the City for the collection and disposal of residential refuse according to the ~~following~~ schedule below. Charges are non-refundable unless for an account error due to the billing software.

(1) Rates and Charges.

MONTHLY RATES					
		2022	2023	2024	2025
One-family dwelling	$12.48	$13.98	$15.10	$15.78	$16.35
One-family dwelling Outside City of South Bend Limits	$16.22	$18.17	$19.63	$20.51	$21.26
Two-family dwelling**	$19.57	$21.92	$23.68	$24.74	$25.64
Three-Family dwelling**	$26.66	$29.86	$32.25	$33.71	$34.92
Four Family Dwelling**	$33.76	$37.82	$40.85	$42.68	$44.23
Senior rate***	$7.49	$8.39	$9.06	$9.47	$9.81
Senior rate*** Outside City of South Bend Limits	$9.36	$10.49	$11.33	$11.84	$12.26
Commercial	$16.22	$18.17	$19.63	$20.51	$21.26
Yard Waste Weekly Service****	$2.00	$3.50	$4.50	$5.50	$6.00
Additional Trash Container (per container)	$7.09	$7.94	$8.58	$8.97	$9.29
Additional Yard Waste Container (per container) ****	$2.00	$3.50	$4.50	$5.50	$6.00
~~Fees Per Incident~~					
Tote Replacement Fee	$50.00	$50.00	$50.00	$50.00	$50.00

MONTHLY RATES					
		2022	2023	2024	2025
Special Trash Collection per cubic yard	$20.00	$20.00	$20.00	$20.00	$20.00
Special Yard Waste Collection per cubic yard	$10.00	$10.00	$10.00	$10.00	$10.00
Return Trip Fee	$10.00	$10.00	$10.00	$10.00	$10.00
Contamination Fee *****	$10.00	$10.00	$10.00	$10.00	$10.00
Administrative Fee	$10.00	$10.00	$10.00	$10.00	$10.00

* Until further amended.

** With one water meter.

*** Where one resident/occupant of the account has submitted to the Board of Public Works proof of address and proof of being age sixty-five (65) or older. No owner age sixty-five (65) or older of multiple properties may claim more than one senior discount. Cooperative housing where more than 75% of the residents meet the age requirements for seniors will be eligible for group senior rate.

**** Charge for the yard waste season which is billed monthly for weekly service during the months of April through November.

***** Charge for Yard waste contamination after 1st warning. The charge will increase by $5 for every subsequent occurrence up to a maximum of $20 in a given calendar year.

(2) The City shall provide, contract with others, or, by permit, allow others to provide specialized collection services, which allow for collection of residential refuse from areas other than curbside or approved alleyside. If the City provides specialized collection services, itself, or by contract with others, the monthly charge for such service shall be set by the South Bend Common Council. If specialized collection services are provided by a permittee of the City, the monthly charge shall be subject to negotiation between the customer and the permittee; and such fee shall be collected by the permittee. The services

provided by the permittee shall be governed by rules and regulations adopted by the Board of Public Works.

(3) The City may provide or contract with others to provide curbside collection of recyclables. If such collection is performed by the City, the fee for such service may be set by the Board of Public Works after a public hearing to a fee reflective of the actual cost to the City of providing such service. If the service is performed by a contractor selected pursuant to a public bid process, the monthly fee for such service to the public may be determined by the bid or may be set by the Board of Public Works.

(4) Special Collection, such as the pick-up of major appliances, furniture and other miscellaneous items: Major a~~A~~ppliances, furniture and other miscellaneous items which, in the opinion of the Director of the Division of Solid Waste, require special equipment or special scheduling, shall be picked up by the City from residential customers subject to the following charges:

(1) Each month, the first large item ~~or cubic yard~~ (for example, ~~appliance~~, refrigerator, freezer, washer, dryer, table, chair, sofa, etc.) shall be free. Each additional item or cubic yard shall follow the rate structure set forth in Section 16-6(c)(1).

Note: Per the United States Environmental Protection Agency, appliances containing refrigerants such as refrigerators, freezers, air conditioners and dehumidifiers must have refrigerant removed prior to disposal. A certificate confirming the removal of refrigerant by a certified professional is required before items will be picked up by the City. The certification should contain a signed statement with the name and address of the person who removed the refrigerant and the date the refrigerant was removed.

The Director of the Division of Solid Waste or designated personnel shall, upon request, provide the customer with an estimated removal cost. In such a case, the items will be removed by the Division only after acceptance by the customer of the estimated removal costs.

(d) ~~It is the responsibility of the owners, occupants or tenants of abutting property to keep all alleys used by any sanitation vehicles clean, orderly and passable at all times~~. In areas where the City has made exceptions for curbside pickup and provides alley pickup, it will be the responsibility of abutting property owners to keep that alley clean, orderly and passable at all times.

(Ord. No. 8436-93, § I; Ord. No. 8454-94, § 3; Ord. No. 8970-98, § I; Ord. No. 9599-05, § I, 6-27-05; Ord. No. 9640-05, § I, 11-28-05; Ord. No. 9861-08, § I, 8-25-08; Ord. No. 10400-15, §§ I—III, 11-9-15; Ord. No. 10538-17, § I, 9-11-17)

B. Chapter 16, Article 2, Section 16-8 (f) of the South Bend Municipal Code is hereby amended to read in its entirety as follows:
Sec. 16-8. - Use of any City-furnished refuse containers required; disabled customer exception; nonrecurring charge for new users; separation of yard waste; and required use of City-furnished yard waste containers; paper or other biodegradable bags.

(f) Yard waste as defined herein, shall be collected by the City on a weekly basis within the City limits for disposal and recycling at the City's Organic Resource Facility provided it is placed in containers furnished by the City. Each owner, occupant or lessee of any single or multifamily dwelling shall separate and keep separate any yard waste from the remainder of the residential refuse for collection. Yard waste shall not be placed in plastic bags for collection. Such yard waste shall be placed in containers furnished by the City, or may be placed for special pick-up only, in paper or other biodegradable bags. Twigs and branches less than two (2) inches in diameter are allowed in the yard waste container for weekly pickup. Additionally, special pick-up may be scheduled for any tree limbs and brush of a diameter of greater than two (2) inches and less than six ~~four~~ (46) inches which shall be bundled together in lengths of forty-eight (48) inches or less, or for large quantities of yard waste, excluding tree limbs in excess of six (6) inches in diameter and stumps. Nothing in this section shall prohibit any person from recycling yard wastes on their own property for their own use or from giving such yard waste to another for recycling or use; provided, however, that such recycling neither creates a public nuisance nor is otherwise injurious to the public health, welfare or safety. Nothing in this section shall be construed to prohibit the deposit of leaves in a neat and careful manner in the tree lawn or any street in the autumn during the period designated by the Department of Public Works for collection.

(Ord. No. 8436-93, § I; Ord. No. 9599-05, § II, 6-27-05; Ord. No. 10270-13, §§ I, II, 11-11-13; Ord. No. 10400-15, § IV, 11-9-15; Ord. No. 10401-15, §§ I—III, 11-23-15; Ord. No. 10538-17, § I, 9-11-17)

C. Chapter 16, Article 2, Section 16-10 of the South Bend Municipal Code be and hereby is amended to read in its entirety as follows:

Sec. 16-10. - Garbage required to be bagged ~~wrapped~~.

(a) All accumulations of garbage which shall be ~~placed~~ put into City supplied containers shall be securely placed in a plastic bag and tied ~~wrapped~~ to prevent its exposure to the air.

(b) Bagged trash must be placed in City supplied containers with the lid completely closed. Bags outside of the container on the ground or on top of a container will not be picked up. ~~All trash containing any garbage particles must be placed in containers with tight-fitting lids or covers.~~

(Ord. No. 8436-93, § I)

SECTION II: SEWERS

Chapter 17, Article 2, Division 4 at Section 17-21(b) of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-21 Sewage rates determination.

(b) *Schedule of Rates and Charges.*

(1) The sewage rates and charges shall be based on the quantity of water used on or in the property or premises subject to such rates and charges as the same is measured by the water meter there in use, plus a base charge based on the size of water meter installed,

except as herein otherwise provided. For the purpose of billing and collecting the charges for sewage service, the water meters shall be read monthly and the users shall be billed each month (or period equaling a month). The water usage schedule on which the amount of said rates and charges shall be determined is as follows:

Schedule of Rates and Charges
Note: Columns 2014 & 2015 should be deleted in their entirety.

	~~2016~~ 2022	2023	2024	2025
Metered Rates (per 100 cubic feet)	~~$2.81~~ $2.92	$3.04	$3.16	$3.29
Base Monthly Charge				
5/8 inch meter	~~$29.89~~ $31.09	$32.33	$33.62	$34.96
¾ inch meter	~~40.29~~ 41.90	43.58	45.32	47.13
1 inch meter	~~68.87~~ 71.62	74.48	77.46	80.56
1 ½ inch meter	~~154.54~~ 160.72	167.15	173.84	180.79
2 inch meter	~~263.56~~ 274.10	285.06	296.46	308.32
3 inch meter	~~601.63~~ 625.70	650.73	676.76	703.83
4 inch meter	~~1,068.92~~ 1,111.68	1,156.15	1202.40	1,250.50
6 inch meter	~~2,393.22~~ 2,488.95	2,588.51	2692.05	2,799.73
8 inch meter	~~4,264.24~~ 4,434.81	4,612.20	4796.69	4,988.56
10 inch meter	~~6,651.81~~ 6,917.88	7,194.60	7482.38	7,781.68
12 inch meter	~~9,584.17~~ 9,967.54	10,366.24	10,780.89	11,212.13

	~~2016~~ 2022	2023	2024	2025
Unmetered Monthly Rate Per Single Family Residential Dwelling Unit	~~49.52~~ 51.50	53.56	55.70	57.93

Chapter 17, Article 2, Division 4 at Section 17-21(d) (previously codified at Chapter 17, Article 10, Sec. 17-81) of the South Bend Municipal Code is hereby added to read in its entirety as follows:

(d) *Sewer main line; assessment of charges inside and outside City.*

For wastewater collection service rendered to customers whose connection is located outside the corporate limits of the City of South Bend, a fourteen (14%) surcharge from January 1, 2019 and beyond shall be added to the total amount billed. Notwithstanding the above, an Indiana municipality or special district organized under the laws of Indiana that is subject to this Section 17-81, who have adopted sewer rates under either IC 36-9-23 or IC 13-26-11 for the purpose of providing such sewer service, shall be qualified for a credit in the amount fourteen percent (14%) in 2019 and beyond.

Chapter 17, Article 10, Section 17-81 of the South Bend Municipal Code is hereby deleted in its entirety:

~~**Sec. 17-81. - Sewer main line; assessment of installation charges inside and outside City.**~~

~~For wastewater collection service rendered to customers whose connection is located outside the corporate limits of the City of South Bend, a surcharge of 0, five percent (5%) surcharge will be charged from January 1, 2017 through December 31, 2017, a ten percent (10%) surcharge from January 1, 2018 through December 31, 2018 and a fourteen (14%) surcharge from January 1, 2019 and beyond shall be added to the total amount billed. Notwithstanding the above, an Indiana municipality or special district organized under the laws of Indiana that is subject to this Section 17-81, who have adopted sewer rates under either IC 36-9-23 or IC 13-26-11 for the purpose of providing such sewer service, shall be qualified for a credit in the amount of five percent (5%) from January 1, 2017 through December 31, 2017, ten percent (10%) from January 1, 2018 through December 31, 2018 and fourteen percent (14%) in 2019 and beyond.~~

SECTION III: WATER

Chapter 17, Article 4, Section 17-45 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-45. Water Works rates and charges.

There shall be and are hereby established for the use of and the services rendered by the Water Works System of the City of South Bend, the following rates and charges, based upon the use of water and facilities furnished by said Water Works System:

(a)	*Usage per Monthly Billing Period*	*Rate per 100 Cubic Feet (upon effective date)*	*Rate per 100 Cubic Feet (12 months after effective date)*
	First 500 cubic feet	~~$2.094~~ $ 2.643	~~$2.554~~ $2.750
	Next 1,500 cubic feet	~~1.818~~ 2.296	~~2.218~~ 2.388
	Next 5,500 cubic feet	~~1.598~~ 2.018	~~1.950~~ 2.099
	Next 22,500 cubic feet	~~1.407~~ 1.776	~~1.716~~ 1.847
	Next 90,000 cubic feet	~~1.104~~ 1.394	~~1.347~~ 1.450
	Over 120,000 cubic feet	~~0.855~~ 1.080	~~1.043~~ 1.123

(b)	*Minimum Charge: Meter Size*	*Allowed Usage (~~in~~ per 100 cubic feet)*	*Minimum Monthly (upon effective date)*	*Minimum Monthly (12 months after effective date)*
	⅝-inch meter	~~452~~ 4.52	~~$9.46~~ $11.94	~~$11.54~~ $12.42
	¾-inch meter	~~675~~ 6.75	~~13.65~~ 17.23	~~16.65~~ 17.93

	1-inch meter	~~1,260~~ 12.60	~~24.28~~ 30.67	~~29.63~~ 31.90
	1½-inch meter	~~3,053~~ 30.53	~~54.56~~ 68.90	~~66.57~~ 71.67
	2-inch meter	~~5,711~~ 57.11	~~97.04~~ 122.53	~~118.39~~ 127.46
	3-inch meter	~~14,090~~ 140.90	~~218.33~~ 275.69	~~266.37~~ 286.77
	4-inch meter	~~26,163~~ 261.63	~~388.16~~ 490.14	~~473.56~~ 509.83
	6-inch meter	~~69,073~~ 690.73	~~873.54~~ 1,103.02	~~1,065.72~~ 1,147.35
	8-inch meter	~~133,701~~ 1,337.01	~~1,553.00~~ 1,960.97	~~1,894.66~~ 2,039.78
	10-inch meter	~~235,781~~ 2,357.81	~~2,426.01~~ 3,063.32	~~2,959.73~~ 3,186.43
	12-inch meter	~~360,542~~ 3,605.42	~~3,492.99~~ 4,410.60	~~4,261.45~~ 4,587.86

(c) *Computation of charges.* Metered water charges shall be the larger of the minimum charges of subsection (b) or the rate charges of subsection (a) of this section. In the case of multiple meters under a single billing entity, the charges shall be computed for each meter separately, not the summation of usage.

(d) *Monthly public fire protection charges.* All customers located within the corporate limits and all customers outside the corporate limits and located within one thousand (1,000) feet of a public fire hydrant shall also pay a monthly public fire protection charge based upon the size of the customer's meter as follows:

	Upon Effective Date	*12 Months After Effective Date*
⅝-inch connection	~~2.75~~ 3.47	~~3.35~~ 3.61
¾-inch connection	~~2.75~~ 3.47	~~3.35~~ 3.61
1-inch connection	~~7.04~~ 8.89	~~8.59~~ 9.25
1½-inch connection	~~15.84~~ 20.00	~~19.32~~ 20.80
2-inch connection	~~28.13~~ 35.52	~~34.32~~ 36.95
3-inch connection	~~63.32~~ 79.95	~~77.25~~ 83.17
4-inch connection	~~112.58~~ 142.16	~~137.35~~ 147.87
6-inch connection	~~253.30~~ 319.84	~~309.02~~ 332.69
8-inch connection	~~450.28~~ 568.57	~~549.34~~ 591.42
10-inch connection	~~703.57~~ 888.40	~~858.36~~ 924.11

(e) Private Fire Protection Service, Automatic Sprinkler. ~~,~~ ~~per annum~~.

	Upon Effective Date	*12 Months After Effective Date*
1-inch connection	~~43.46~~ 4.57	~~53.02~~ 4.76
2-inch connection	~~87.56~~ 9.21	~~106.82~~ 9.58
3-inch connection	~~175.11~~ 18.42	~~213.63~~ 19.16
4-inch connection	~~349.90~~ 36.81	~~426.87~~ 38.30
6-inch connection	~~433.78~~ 45.64	~~529.22~~ 47.48
8-inch connection	~~744.93~~ 78.39	~~908.82~~ 81.54
10-inch connection	~~1,164.34~~ 122.52	~~1,420.50~~ 127.45
12-inch connection	~~1,678.70~~ 176.64	~~2,048.01~~ 183.74

SECTION IV: STORM WATER

The title **of Chapter 17, Article 14, and Section 17-128** of that Chapter and Article of the South Bend Municipal Code are hereby amended to read as follows:

ARTICLE 14. ~~INTERIM~~ STORM WATER UTILITY RATES

Sec. 17-128 Storm water user fees.

The specific storm water fees that follow are set for the purpose of providing repairs, replacements and miscellaneous services related to storm water flows and to provide future improvements and capital needs of the City of South Bend's storm water system:

(a) The storm water user fee for residential users for each tax parcel of real estate shall be a flat fee ~~at the rate of two dollars per month ($2.00)~~ per active utility customer account based on the schedule below.

(b) The storm water user fee for non-residential users shall be based on impervious surface area for each parcel ~~at the rate of five dollars ($5.00) per month~~ per active utility customer account. The impervious area based method of storm water utility rates is the best indicator of the amount of stormwater runoff, therefore it is considered the most defendable, fair, and equitable for rate payers.

All non-residential parcels in the city have been grouped into five tiers based on similar impervious areas as follows:

Tier 1:	1 – 5,000 sq.ft
Tier 2:	5,001 – 40,000 sq.ft
Tier 3:	40,001 – 100,000 sq.ft
Tier 4:	100,001 – 200,000 sq.ft
Tier 5:	Greater than 200,000 sq.ft

(c) There shall be no exceptions or exemptions from the assessment of storm water user fees for a particular type or classification of real estate parcels within the corporate boundaries of the City of South Bend, Indiana.

(d)	Monthly Rates			
	2022	**2023**	**2024**	**2025**
Residential	$2.00	~~$2.25~~ $2.00	~~$2.50~~ $2.25	$2.50
Non-Residential Tier 1	$5.00	$6.00	$7.00	$8.00
Non-Residential Tier 2	$8.00	$10.00	$12.00	$14.00
Non-Residential Tier 3	$10.00	$14.00	$18.00	$22.00
Non-Residential Tier 4	$16.00	$22.00	$28.00	$34.00
Non-Residential Tier 5	$20.00	$35.00	$50.00	$65.00

SECTION V: CUSTOMER ASSISTANCE PROGRAM

Chapter 17, Article 15, Section 17-130 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-130. - Findings and purpose.

In order to address the public health obligation to provide affordable water and sewer services to low-income customers, while still maintaining sustainable finances, the City of South Bend will implement a rate-payer funded Low Income Customer Assistance Program (LICAP). A charge shall be assessed against every City of South Bend sewer rate-payer in order to provide a LICAP credit for qualifying low-income non-industrial sewer customers. ~~The LICAP credit will vary based on income levels, as defined by the State of Indiana Energy Assistance Program ("EAP").~~ Qualification and verification shall be performed by members of the City's staff or ~~a~~ local community action partners, as determined by the City. The credit shall be applied for a period of twelve (12) months with annual renewal ~~required~~ possible. This charge is deemed reasonable and necessary for its intended purpose. The rates established in this Article shall remain effective until replaced, amended, or repealed by the South Bend Common Council.

Chapter 17, Article 15, Section 17-131 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-131. - Definitions.

Unless otherwise defined in this Ordinance, the terms and phrases shall be defined as follows:

(a) *City* means the City of South Bend, Indiana.

(b) *Customer* means the owner or tenant of a single-unit residential property or a multi-unit residential property up to four (4) units, in whose name the bill for wastewater charges for such property is issued by the City.

(c) *Low-Income Customer Assistance Program Credit* means the credit for wastewater charges provided under Sec. 17-133 ~~Section I~~ of this ~~Ordinance~~ Article.

(d) *Eligible Low-Income Customer Assistance Program Customer* means an eligible customer as defined in Sec. 17-134 ~~Section I~~ of this ~~Ordinance~~ Article.

(e) *Multi-Unit Residential Property* means property used only for human residency which consists of no more than four (4) dwelling units with each one occupied as a primary residence by a single person or single family.

(f) *Single-Unit Residential Property* means property used only for human residency which consists of a single dwelling unit occupied as a primary residence by a single person or single family.

(g) *Wastewater Charges* means the wastewater user charges established by City Ordinance for use of its wastewater system.

Chapter 17, Article 15, Section 17-132 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-132. - Sewer Charge.

The sewer charge fee is set for the purpose of offsetting the LICAP Credit. The sewer charge fee shall be One Dollar and Seventy-Five Cents ($1.75) per Month charged through December 31, 2022, One Dollar and Eighty-Nine Centers ($1.89) per month charged from January 1, 2023 through December 31, 2023, Two Dollars and Three Cents ($2.03) per month charged from January 1, 2024 through December 31, 2024, and Two Dollars and Eighteen Cents ($2.18) per month charged from January 1, 2025 and beyond per wastewater Customer account. This charge will be reviewed on the same basis as all other rates and charges in this Chapter.

Chapter 17, Article 15, Section 17-133 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-133. - Low-Income Customer Assistance Program Credit.

A LICAP credit shall be available to Eligible Customers of the City who are billed for wastewater charges as provided for in this Ordinance effective January 1, 2022. The current LICAP credits shall remain in effect until the new rates are established on January 1, 2022. The amount of such credit will be applied for the applicable billing cycle as follows:

~~Percentage of the 60% of State of Indiana Median Household Income (MHI)*~~	~~Credit Amount~~
~~100% of the 60% of Indiana MHI~~	~~$10+ $1.75 = $11.75~~
~~75% of the 60% of Indiana MHI~~	~~$14 + $1.75 = $15.75~~
~~50% of the 60% of Indiana MHI~~	~~$19 + $1.75 = $20.75~~

~~*As determined under Indiana's Energy Assistance Program.~~

Income Eligibility Cutoffs as a Percentage of Area Median Income (AMI)*	**Credit Amount**
>60%-80% of AMI	$8.00
>45%-60% of AMI	$14.25
>30%-45% of AMI	$19.25
>0%-30% of AMI	$25.50

* Area Median Income means the **median income** for the South Bend – Mishawaka IN HUD Metro Area as adjusted for family size and as determined annually by the United States Department of Housing and Urban Development (HUD).

Chapter 17, Article 15, Section 17-134 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-134. – Eligible Customer.

In order for a Customer to be eligible, the Customer must satisfy each of the following criteria:

(a) Must own or occupy as a primary residence a Single-Unit Residential Property or a Multi-Unit Residential Property and receive a bill in his or her name for wastewater charges from the City for service to such Residential Property.
(b) Customer's annual ~~gross~~ household income must be at or below the levels established in above Sec. 17-133. ~~for assistance from the State of Indiana's Energy Assistance Program (EAP).~~

Chapter 17, Article 15, Section 17-135 of the South Bend Municipal Code is hereby amended to read in its entirety as follows:

Sec. 17-135. – Application Procedure.

(a) A Customer seeking assistance from the City's LICAP must complete an application and return the application, along with any requested ~~all required~~ supporting documentation, to the ~~local EAP service provider for St. Joseph County, Indiana~~ City of South Bend.
~~(b) A Customer approved for the EAP Program will be considered as an Eligible Customer and will receive a LICAP Credit on their wastewater service bill.~~
~~(c)~~ (b) Eligible Customers will receive the LICAP Credit for a period of twelve (12) months. ~~concurrent with the local EAP service provider application period.~~
~~(d)~~(c) In order to re-enroll in LICAP, t~~T~~he Customer must annually complete either an attestation that their address, household income, and number of household members have not changed or a new application in the event that an applicant's address, household income, or number of household members have changed. ~~each year with the local EAP service provider to establish continuing eligibility for the program.~~

Chapter 17, Article 15, Section 17-136 of the South Bend Municipal Code is hereby deleted in its entirety as follows:

~~Sec. 17-136. Review of Denial of Eligibility.~~

~~A Customer who has been determined to be ineligible for the State EAP may request administrative review of the denial with the local EAP service provider.~~

Chapter 17, Article 15, Section 17-137 of the South Bend Municipal Code is hereby amended in its entirety as follows:

Sec. 17-137~~6~~6. – Rules and Regulations and Termination of Program.

The City shall promulgate such rules, regulations, written policy, forms and other documentation as deemed necessary to effectuate the LICAP. The City reserves the right to discontinue the LICAP upon a determination that the costs of the Program have become prohibitive~~; the services of a State EAP local service provider have become unavailable to perform Customer eligibility verification;~~ or the City otherwise determines that it is in the best interest of the City to discontinue the LICAP.

Chapter 17, Article 15, Section 17-138 and 17-139 of the South Bend Municipal Code are hereby amended as follows:

Secs. 17-138~~7~~7 and 17-139~~8~~8 Reserved.

SECTION VI. The terms and provisions of this Ordinance are hereby determined to be severable; the invalidity or unenforceability of any section, sentence, clause, term, or provision of this Ordinance shall not affect the validity of any other section, sentence, clause, term, or provision of this Ordinance which can be given meaning without such invalid part or parts.

SECTION VII. This Ordinance shall be in full force and effect after adoption by the Common Council, approval by the Mayor, and any publication required by law, with an effective date of _____, 2021

_____
Member, South Bend Common Council

ATTEST:

_____
City Clerk

Presented by me to the Mayor of the City of South Bend, Indiana on the _____ day of _____, 2021, at _____ o'clock ___.m.

_____
Clerk

Approved and signed by me on the _____ day of _____, 2021, at _____ o'clock __.m.

_____
Mayor, City of South Bend, Indiana

ARCADIS

SOUTH BEND WATER WORKS
SOUTH BEND, INDIANA

Prioritized 5-Yr Capital Improvement Plan [1,2,3,4,5]

Item	Year					Total Estimated Project Cost
	2022	2023	2024	2025	2026	
Treatment Plant Improvements						
Carriage Hills Wellfield					$1,100,000	$1,100,000
Cleveland North Wellfield					$1,100,000	$1,100,000
Cleveland South Wellfield				$200,000	$800,000	$1,000,000
Edison Filtration Plant			$2,947,000	$4,640,000	$118,000	$7,705,000
North Station Filtration Plant			$582,000	$64,000	$104,000	$750,000
Olive GAC Plant	$640,000		$680,000	$210,000	$64,000	$1,594,000
Pinhook Filtration Plant	$249,000		$530,000		$672,000	$1,451,000
South GAC Plant	$1,130,000				$150,000	$1,280,000
Distribution System Improvements						
Fellows Reservoir and Booster Station	$1,263,000	$8,185,000				$9,448,000
Ireland Tank and Booster Station	$160,000		$36,000		$1,500,000	$1,696,000
Locust Booster Station	$150,000				$640,000	$790,000
SR 23 Booster Station			$318,000		$33,000	$351,000
Topsfield Booster Station					$37,000	$37,000
Winterberry Booster Station				$640,000	$33,000	$673,000
Northwest Elevated Tank	$845,000					$845,000
South Wellfield Distribution Main	$1,900,000					$1,900,000
Lathrop Distribution Main - Portage to Bendix				$900,000		$900,000
30th & Greenlawn Main Replacement (RR Crossing)	$400,000					$400,000
Douglas Water Main	$275,000					$275,000
Water Main Extensions/Replacements	$25,000	$300,000	$300,000	$300,000	$300,000	$1,225,000
Subtotal Plant & Distribution Improvements	**$7,037,000**	**$8,485,000**	**$5,393,000**	**$6,954,000**	**$6,651,000**	**$34,520,000**
Project Bonds		**$16,170,000**	**$18,830,000**			**$35,000,000**

Notes:

1. All estimated project costs are presented in 2020 dollars. Costs were rounded to the nearest $1,000 for costs below $100,000, to the nearest $10,000 for costs between $100,000 and $1,000,000, and to the nearest $100,000 for costs above $1,000,000. Estimated project costs are consistent with an Association for Advancement of Cost Engineering (AACE) Class 5 Estimate, which is considered a concept screening estimate and are typically -50% to +100% accurate. Consistent with a Class 5 designation, the estimated costs were prepared based on very limited scope information using a combination of stochastic methods (i.e., cost/capacity curve, factors, allowances, $/ft.), costs from similar projects, recent costs from South Bend, and engineering judgement.
2. Estimated project costs include major equipment, piping, electrical, instrumentation and controls (I&C), and installation in addition to several below the line items, where applicable, including performance bonds and insurance, contractor overhead and profit, general conditions, engineering services and contingency.
3. The year(s) in which a project occurs was determined based on input from South Bend or to distribute costs more evenly over the five year period. Timing may need to be adjusted for individual projects based on available funds, condition assessment results or additional staff input.
4. Available capital may be reduced each subsequent year as operations and maintenance budget increases to account for increased costs for staff compensation and benefits and routine maintenance needs.
5. Project bonds include cost of issuance.

PROJECT NAME	CARRIAGE HILLS WELLFIELD GENERATOR

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,100,000**
Estimated Project Duration	**1 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$0**	**$0**	**$1,100,000**	**$1,100,000**

PROJECT JUSTIFICATION

Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This project includes the addition of a new pad-mounted generator with an auto transfer switch.

PROJECT DRIVERS

☐Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	CLEVELAND NORTH WELLFIELD GENERATOR

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,100,000**
Estimated Project Duration	**1 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$0**	**$0**	**$1,100,000**	**$1,100,000**

PROJECT JUSTIFICATION

Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This project includes the addition of a new stand-alone generator with an auto transfer switch.

PROJECT DRIVERS

☐Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	CLEVELAND SOUTH NEW WELL INSTALLATION

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,000,000**
Estimated Project Duration	**2 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$0**	**$200,000**	**$800,000**	**$1,000,000**

PROJECT JUSTIFICATION

This project involves a new well and a well house. Cleveland South has four wells and all the wells are operated to meet summer peak demands. The main producing wells (#1 and #4) were originally installed in 1984 and are losing capacity even after cleaning and rehabilitation. Additionally, well #2 and #3 had impellers trimmed in 2004 when Cleveland North went online as they were braking suction leading to reduced existing capacity. A new well and well house is needed for system operability/ reliability.

PROJECT DRIVERS

☒Reliability	☐Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	EDISON FILTRATION PLANT IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$7,705,000**
Estimated Project Duration	**3 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$2,947,000**	**$4,640,000**	**$118,000**	**$7,705,000**

PROJECT JUSTIFICATION

This project entails the rehabilitation of all 8 filters including underdrains, air scour, filter media, blowers, valves, and actuators. The existing system is beyond its useful life. Air nozzles are plugging, simultaneous backwash and air scouring cannot be performed as intended due to blower issues. The rehabilitation improvements are needed for water quality and regulatory compliance. New actuators and valves are needed for improved flow control and system operability.

A new well and a well house will be added to replace Well #1A. Well #1A is past its useful life with piping in very bad condition and has a potential for catastrophic leakage. The piping is in a confined space and needs replacement. A new well and a wellhouse to replace the existing well #1A is needed for system operability/ reliability.

Regular tank inspections can also help to identify small issues that may develop into major problems that can lead to expensive repairs, failures of the tank, and create health-related issues. Tanks that are not periodically cleaned can cause contamination events that can harm human health or can contribute to customer complaints. This item includes an allowance for tank inspection, cleaning and miscellaneous repairs at Edison Filtration Plant.

This project involves several improvements to the Edison Filtration Plant. The current hydrofluorosilicic steel tank is aging and not in containment. The tank will be replaced with a new tank and containment added. The current outdated PLCs will also be upgraded to 5000 platform with HMI and programming. A new drain pit pump and motor with variable frequency drive will be added. Backwash Pump #2 will be refurbished, and the motor replaced. High Service Pump #4 will be refurbished, and the motor replaced. These improvements are needed to maintain operability/system reliability.

PROJECT DRIVERS

☒Reliability	☐Redundancy/Resiliency	☒Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	NORTH STATION FILTRATION PLANT IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$750,000**
Estimated Project Duration	**6 months each (pump and motor replacement)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$582,000**	**$64,000**	**$104,000**	**$750,000**

PROJECT JUSTIFICATION

This project involves several improvements to the North Station Filtration plant. Blower motors, Sludge Pump #1 and #2 and Recycle Pump #1 and #2 will be replaced to maintain operability and system reliability. The current PLCs will be upgraded to 5000 platform with HMI and programming. A new dehumidification unit for equipment protection will be added as the existing unit is obsolete and no spare parts or support from the manufacturer is provided.

Routine well inspection, cleaning and rehabilitation is important to maximize yield and performance and to maintain system reliability. Delaying cleaning and rehabilitation procedures can significantly increase costs and in some cases make rehabilitation impossible and ultimately require replacement of the well. This item includes costs for inspection and disk surge cleaning for Well #3A and #5A at North Station. In addition to inspection and cleaning, the item includes an allowance for well pump refurbishments and motor replacements to inverter duty motor at North.

Clearwells need to be inspected and cleaned periodically to help maintain good water quality in the distribution system, and to help extend the life of the tank. Regular tank inspections can also help to identify small issues that may develop into major problems that can lead to expensive repairs, failures of the tank, and create health-related issues. Tanks that are not periodically cleaned can cause contamination events that can harm human health or can contribute to customer complaints. This item includes an allowance for tank inspection, cleaning and miscellaneous repairs at North Station.

PROJECT DRIVERS

☒Reliability	☐Redundancy/Resiliency	☒Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	OLIVE GAC PLANT IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,594,000**
Estimated Project Duration	**1 yr. each (Roof replacement), 6 months each (GAC reactivation for Vessel 1-6, for Vessel 7-12 and dehumidification upgrades)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$640,000	**$0**	**$680,000**	**$210,000**	**$64,000**	**$1,594,000**

PROJECT JUSTIFICATION

This project involves the rehabilitation of the Olive GAC Plant. The project includes roof replacement of the GAC building including the addition of a ladder and Well #1 well house for structural integrity and safety purposes. The GAC media which removes VOC/SOC will be reactivated/replaced in all 12 vessels and is needed for water quality/regulatory compliance purposes. A new dehumidification unit for equipment protection will be added as the existing unit is obsolete and no spare parts or support from the manufacturer is provided. Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of a new generator with an auto transfer switch.

Routine well inspection, cleaning and rehabilitation is important to maximize yield and performance and to maintain system reliability. Delaying cleaning and rehabilitation procedures can significantly increase costs and in some cases make rehabilitation impossible and ultimately require replacement of the well. This item includes costs for inspection and disk surge cleaning for Well #2A and #5 at Olive Plant. In addition to inspection and cleaning, the item includes an allowance for well pump refurbishments and motor replacements to inverter duty motor at Olive with the addition of a new variable frequency drive for Well #2A at Olive.

PROJECT DRIVERS		
☒Reliability	☐Redundancy/Resiliency	☒Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	PINHOOK FILTRATION PLANT IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,451,000**
Estimated Project Duration	**1 yr. (Chemical Feed Line Replacement), 2 yr. (Well Replacement) and 6 months (Pump Refurbishment), 1 yr (Generator)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$249,000	**$0**	**$530,000**	**$0**	**$672,000**	**$1,451,000**

PROJECT JUSTIFICATION

This project involves improvements to the Pinhook Filtration Plant including refurbishment of Drain Pump #1 and #2 and replacement of the pre-chlorination feed lines for operability and system reliability.

Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of new generators with auto transfer switches.

This project entails the replacement of Well #3. Well #3 has high levels of ammonia and is currently not usable. A new well is needed for system operability/ reliability.

PROJECT DRIVERS

☒Reliability	☒Redundancy/Resiliency	☒Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	SOUTH WELLFIELD GAC PLANT AND DISTRIBUTION MAIN IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$3,180,000**
Estimated Project Duration	**1 yr. (New Main), 1 yr. each (Chlorine Scrubber and Chemical Feed Line Replacement) and 6 months (GAC Reactivation), 1 yrs. (Generator)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$3,030,000	**$0**	**$0**	**$0**	**$150,000**	**$3,180,000**

PROJECT JUSTIFICATION

This project involves the rehabilitation of South Wellfield through plant improvements including reactivation of the granular activated carbon absorption media necessary for removal of regulated volatile organic compounds for water quality and regulatory compliance (photo below), a new chlorine scrubbing equipment for safety purposes, and chemical feed line replacement to address aging piping. This project involves a new water main that will allow water delivery directly to the South pressure zone. Currently, South Wellfield is in the South pressure zone, but cannot pump water directly to the South pressure zone. This upgrade will allow the wellfield to treat additional water giving greater redundancy to the South pressure zone. Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of a new generator with an auto transfer switch.

PROJECT DRIVERS

☒Reliability	☒Redundancy/Resiliency	☒Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	FELLOWS BOOSTER STATION REPLACEMENT & TANK INSPECTION

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$9,448,000**
Estimated Project Duration	**2 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$1,263,000	**$8,185,000**	**$0**	**$0**	**$0**	**$9,448,000**

PROJECT JUSTIFICATION

This project involves the demolition of the existing Fellows Booster Station, design and construction of a new facility including a new building, new pumps/equipment (4 local and 3 high service pumps), a new generator and transformer, and new flow meters/valves and VFD drives. Fellows Booster Station is a critical facility as it provides the majority of water supply from the Central to South pressure zone. Several assets are well beyond their useful life and are in need of replacement to maintain operability and/or structural integrity. The existing building is in poor condition and needs roof replacement and extensive structural repairs (left photo). New A new dehumidification system is needed to provide humidity control to protect the pumping equipment (center photo, note water standing in drain). Cathodic protection is needed for corrosion control (right photo). Variable Frequency Drives are required for high service pumps #1, #2, and #3 for plant operability.

A new generator and transformer are needed for backup power. Security cameras and fencing are also needed for physical security. The building configuration makes it difficult for the rehabilitation of equipment due to confined space. Additionally, the extent of repairs is so high that a brand-new facility is recommended. It is assumed that the new station will be constructed on the existing site.

Regular tank inspections can help to identify small issues that may develop into major problems that can lead to expensive repairs, failures of the tank, and create health-related issues. Tanks that are not periodically cleaned can cause contamination events that can harm human health or can contribute to customer complaints. This item includes an allowance for tank inspection, cleaning, and miscellaneous repairs at Fellows Booster Station. The cost includes divers for inspection as the tank has to remain in service.



PROJECT DRIVERS

☒Reliability	☐Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

Since Fellows is a critical facility for the supply of water to South pressure zone, the project should follow the Locust Booster Station Pump No. 3 Addition and South Raw Water Main Improvements to supplement demands in the South pressure zone and maintain the existing reliability and redundancy.

PROJECT NAME	IRELAND TANK REHABILITATION AND BOOSTER STATION IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,696,000**
Estimated Project Duration	**1 yr. (Tank Rehabilitation), 6 months each (Pump Refurbishment and Motor Replacement)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$160,000	**$0**	**$36,000**	**$0**	**$1,500,000**	**$1,696,000**

PROJECT JUSTIFICATION

This project involves several upgrades to the Ireland Tank and Booster Station including rehabilitation of the tank, refurbishment of Pump #1,#2 and #3, replacement of motors for Pump #1,#2 and #3, and installation of a new generator. The tank rehabilitation includes shutdown, inspection and cleaning of the 3.5 MG tank including stripping down of exterior paint and providing new interior and exterior coatings (note corrosion at the base of pilaster support in right photo) to maintain operability/system reliability, and addition of cathodic protection which protects the tank from corrosion. Pumps and motors are in need of refurbishment/replacement for operability (left photo). A permanent generator is needed to provide backup power during an outage or to offset power needed during peak usage.

PROJECT DRIVERS

☒Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	LOCUST BOOSTER STATION PUMP NO. 3 ADDITION

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$790,000**
Estimated Project Duration	**1.5 yr. (Pump Addition) , 1 yr. (Generator)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$150,000	**$0**	**$0**	**$0**	**$640,000**	**$790,000**

PROJECT JUSTIFICATION

This project involves the design and construction of a new Pump #3. Pump #1 and #2 have operating issues due to poor engineering and a new pump is needed to achieve average and peak demands which can then be integrated with the existing pumps. The new pump is needed for system operability and the station expansion will increase the overall pumping capacity and system reliability and redundancy. Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of a new generator with an auto transfer switch.

PROJECT DRIVERS

☒Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

The project should be completed before Fellows Booster Station Improvements as the station is one of the facilities supplying the South pressure zones if any other facilities fail.

PROJECT NAME	SR23 BOOSTER STATION IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$351,000**
Estimated Project Duration	**6 months each (Pump Refurbishment, Motor Replacement and Cathodic Protection), 1 yr. (Generator)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$318,000**	**$0**	**$33,000**	**$351,000**

PROJECT JUSTIFICATION

This project involves a new cathodic protection system (left photo) that protects the structure from corrosion. Refurbishment of Pump #1 and #2, replacement of Pump #1 and #2 motors, and new variable frequency drives (right photo) are also needed to main system operability/ reliability. Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of a new generator with an auto transfer switch.

PROJECT DRIVERS		
☒Reliability	☐Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	TOPSFIELD BOOSTER STATION CATHODIC PROTECTION

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$37,000**
Estimated Project Duration	**6 months**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$0**	**$0**	**$37,000**	**$37,000**

PROJECT JUSTIFICATION

This project includes the installation of a cathodic protection system to protect the Topsfield Booster Station structure from any further corrosion (photos below). The installation of the cathodic protection system will prevent further corrosion of the station structure improving the reliability of the station.

PROJECT DRIVERS		
☒Reliability	☐Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	WINTERBERRY BOOSTER STATION CATHODIC PROTECTION

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$673,000**
Estimated Project Duration	**6 months, 1 yr (Generator)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$0**	**$640,000**	**$33,000**	**$673,000**

PROJECT JUSTIFICATION

This project includes the installation of a cathodic protection system to protect the Winterberry Booster Station structure from corrosion. The installation of the cathodic protection system will prevent further corrosion of the station structure improving the reliability of the station. Backup power is needed at water system facilities to meet demand and water quality requirements during outages. This item includes the addition of a new generator with an auto transfer switch.

PROJECT DRIVERS

☒Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	NORTHWEST ELEVATED TANK IMPROVEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$845,000**
Estimated Project Duration	**1 yr. (Tank Improvements); 6 months (Valve Repair)**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$845,000	**$0**	**$0**	**$0**	**$0**	**$845,000**

PROJECT JUSTIFICATION

This project involves the rehabilitation of the Northwest Elevated Tank including tank improvements such as exterior cleaning and painting, wet interior roof repainting, pit piping repainting, installation of a painters railing (left photo) and cathodic system replacement for maintenance and corrosion control, and rebuilding of the 12-inch check valve (right photo) for flow control.

PROJECT DRIVERS		
☒Reliability	☐Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	LATHROP DISTRIBUTION MAIN - PORTAGE TO BENDIX

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$900,000**
Estimated Project Duration	**1 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$0	**$0**	**$0**	**$900,000**	**$0**	**$900,000**

PROJECT JUSTIFICATION

This project involves the installation of 4,100 linear feet of 12-inch ductile iron pipe on Lathrop St. from Bendix Drive to Portage Ave. This will replace the undersized pipe on the east end, and add a new pipe from west of Olive to Bendix Drive. This loop provides increased flow and redundancy. The costs include street reconstruction. This project increases flow and system reliability and redundancy.

PROJECT DRIVERS

☒Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

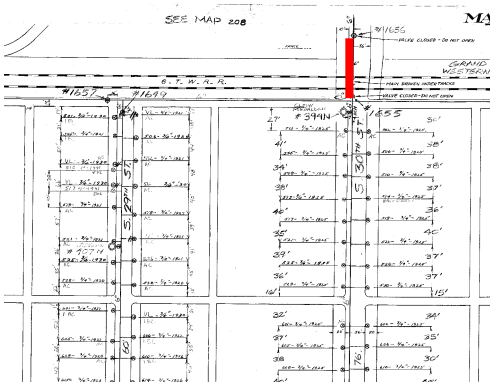
PROJECT NAME	30TH STREET AND GREENLAWN AVENUE MAIN REPLACEMENT

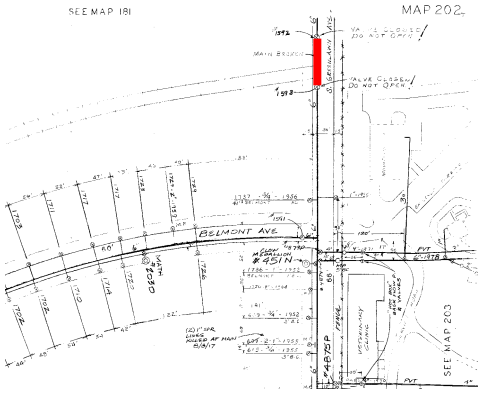
PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$400,000**
Estimated Project Duration	**1 yr. each**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$400,000	**$0**	**$0**	**$0**	**$0**	**$400,000**

PROJECT JUSTIFICATION

This project involves the replacement of two 6-inch mains crossing the railroad at 30th Street (left photo) and Green Lawn Avenue (right photo). The mains are broken below the railroad and are currently valved off. The project involves the replacement of the distribution main. This loop provides increased flow and redundancy. The costs include coordination with the railroad, insurance, cathodic protection, and street reconstruction.





PROJECT DRIVERS		
☐Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

This project involves coordination with the railroad.

PROJECT NAME	DOUGLAS DISTRIBUTION MAIN

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$275,000**
Estimated Project Duration	**1 yr.**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$275,000	**$0**	**$0**	**$0**	**$0**	**$275,000**

PROJECT JUSTIFICATION

This project involves the installation of 2,000 linear feet of new ductile iron water main, hydrants, and valves to accommodate future development along Douglas Road between Burdette and Ironwood Road.

PROJECT DRIVERS		
☐Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

PROJECT NAME	WATER MAIN EXTENSION AND REPLACEMENTS

PROJECT COST SUMMARY (2020 DOLLARS)	
Estimated Project Cost	**$1,225,000**
Estimated Project Duration	**Annual**

PROJECTED FISCAL YEAR ALLOCATION (2020 DOLLARS)					
2022	**2023**	**2024**	**2025**	**2026**	**TOTAL**
$25,000	**$300,000**	**$300,000**	**$300,000**	**$300,000**	**$1,225,000**

PROJECT JUSTIFICATION

The water distribution system has approximately 585 miles of water main, mostly consisting of cast iron (photo below). Replacement of critical distribution system mains is required to address aging infrastructure and improve operability, reliability, customer satisfaction, and reduce risks. Proactive water main replacements are critical to remedy the existing infrastructure before their failure. This item also includes an allowance for water main extensions.

PROJECT DRIVERS		
☒Reliability	☒Redundancy/Resiliency	☐Water Quality/Current Regulatory Compliance

PROJECT CONSTRAINTS / DEPENDENCIES

None

2022 Capital Budget

NOTE: Capital items funded through a bond will not be budgeted during the annual budget process. The bond budget will be established when the bond is finalized during the year. Only the estimated debt service principal and interest expense is budgeted.

Fund	Dept	Subdivision	Type	Funding Method	Include on "Budget Exp" tab (Yes/No)?	Replaces Existing Asset (Yes/No)?	Expense Account	Main Account Description	Description	2022	2023	2024	2025	2026	Total	Is Expense Account on Budget Exp tab?	Capital Lease Revenue Account
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-431002	Engineering Services	Services for Capital Planning	100,000	100,000	100,000	100,000	100,000	500,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Bond	No		622-06-604-620-442005	Treatment/Disposal Equipment	2022 Water Works Revenue Bonds	16,790,000	-	-	-	-	16,790,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Bond	No		622-06-604-620-442005	Treatment/Disposal Equipment	2024 Water Works Revenue Bonds	-	-	18,030,000	-	-	18,030,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442005	Treatment/Disposal Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442005	Treatment/Disposal Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442005	Treatment/Disposal Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	System Renewal Projects- TBD	2,500,000	1,700,000	1,700,000	1,795,000	-	7,695,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	New Main on Lathrop Street- Bendix Drive to Portage Avenue	888,000	-	-	-	-	888,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	Water Main, Hydrant and Valve Replacement	715,000	-	-	-	-	715,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442007	Water Mains	New on Trail ROW- Dublin Street to Cripe Street	297,000	-	-	-	-	297,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442008	Water Meters	Water Meter Replacement	4,000,000	800,000	800,000	800,000	800,000	7,200,000	Yes	
622	Public Works	Water Works	Utilities & Infrastructure	Cash	Yes		622-06-604-620-442010	Distribution Reservoirs		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Tandem Axle Dump Truck	275,000	-	275,000	-	500,000	1,050,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(2) Mini Cargo Vans w/CNG	66,000	66,000	-	40,000	-	172,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Pickup Valve Truck	65,000	-		45,000	-	110,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(2) Hybrid Vehicles	56,000	-		25,000	-	81,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Vactor	-	400,000	-	-	400,000	800,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	() Truck 2WD w/Utility Body	-	-	80,000	40,000	-	120,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Crane Crew Truck	-	-	-	275,000	-	275,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Truck 4WD w/Plow w/CNG	-	-	-	40,000	40,000	80,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Mid Size Car w/CNG		30,000	33,000	35,000	-	98,000	Yes	
622	Public Works	Water Works	Vehicles	Cash	Yes		622-06-604-620-445000	Motor Equipment	(1) Truck 4WD w/CNG		-	-	40,000	-	40,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Trailer 20 ' Long for Dump Truck	25,000	-	-	-	-	25,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Trailer for Generator	-	-	30,000	-	-	30,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Forklift	-	-	15,000	-	-	15,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Zero Turn Mower	-	-	14,000	-	-	14,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	(1) Semi Trailer	-	-	-	-	40,000	40,000	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment		-	-	-	-	-	-	Yes	
622	Public Works	Water Works	Machinery & Equipment	Cash	Yes		622-06-604-620-445008	Other Equipment	Generator w/trailer	-	-	50,000	-	-	50,000	Yes	

ARCADIS

SOUTH BEND WATER WORKS
SOUTH BEND, INDIANA

Capital Needs [1,2]

Item	Total Estimated Project Cost
Treatment Plant Improvements	
Carriage Hills Wellfield	$14,767,000
Cleveland North Wellfield	$2,247,000
Cleveland South Wellfield	$3,507,000
Edison Filtration Plant	$9,170,000
Erskine Wellfield	$698,000
North Station Filtration Plant	$6,904,000
Olive GAC Plant	$20,514,000
Pinhook Filtration Plant	$4,578,000
South GAC Plant	$3,700,000
Distribution System Improvements	
Fellows Reservoir and Booster Station	$9,529,000
Ireland Tank and Booster Station	$1,820,000
Locust Booster Station	$1,134,000
SR 23 Booster Station	$483,000
Topsfield Booster Station	$231,000
Winterberry Booster Station	$10,891,000
Northwest Elevated Tank	$916,000
Water Main, Hydrant & Valve Replacement	$36,400,000
Water Meter Replacement	$4,000,000
New Main from Lathrop St.-Bendix Drive to Portage Ave.	$990,000
New Main from Trail ROW-Dublin St. to Cripe St.	$330,000
First New 2 MG Elevated Storage Tank	$8,100,000
Second New 2 MG Elevated Storage Tank	$7,400,000
30st Main Replacement (Railroad Crossing)	$200,000
Green Lawn Main Replacement (Railroad Crossing)	$200,000
Other	
Vehicle Replacement	$2,500,000
New Office Building	$2,000,000
AWIA Risk and Resiliency Mitigation Measures	$115,000
Final Lead and Copper Rule Revisions Requirements	$200,000
Engineering Studies	$800,000
TOTAL	**$154,300,000**

Notes:

1. All estimated project costs are presented in 2020 dollars. The costs are rounded to the nearest $1,000 for costs below $100,000, to the nearest $10,000 for costs between $100,000 and $1,000,000, and to the nearest $100,000 for costs above $1,000,000. Estimated project costs are consistent with an Association for Advancement of Cost Engineering (AACE) Class 5 Estimate, which is considered a concept screening estimate and are typically -50% to +100% accurate. Consistent with a Class 5 designation, the estimated costs were prepared based on very limited scope information using a combination of stochastic methods (i.e., cost/capacity curve, factors, allowances, $/ft.), costs from similar projects, recent costs from South Bend, and engineering judgment.

2. Estimated project costs include major equipment, piping, electrical, instrumentation and controls (I&C), and installation in addition to several below the line items, where applicable, including performance bonds and insurance, contractor overhead and profit, general conditions, engineering services and contingency. Estimated project costs do not include costs for land and easement acquisitions, legal and financial services, and permitting.

ARCADIS

SOUTH BEND WATER WORKS
SOUTH BEND, INDIANA

Capital Needs

Carriage Hills Wellfield

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Permanent Generator Installation	Install pad mounted Generator with auto transfer switch. Integrate wells to run on generator.	Emergency Power	3	$1,100,000
MCC Panel Upgrades	Replace existing MCC Panel	Process Control	2	$150,000
PLC and HMI Upgrades	Upgrade existing PLC to 5000 platform with new HMI and programming (float pressure on well #3 & well #4)	Process Control	3	$90,000
Well #3 Rehabilitation	Inspect, clean and rehabilitate the well, replace pump end and replace motor to 250 hp inverted duty motor	Source Water	2	$64,000
Connection to the Sewer System	Connect failing drywell system in Well #4 to newly installed sewer on Shenahdoah Drive. Connect sample sink discharge in Well #3 to newly installed sewer on Shenahdoah Drive	Process Control	3	$89,000
Well House #3 Roof Repairs	Repair roof	Structural Integrity	2	$6,000
Well House #4 Roof Repairs	Repair roof	Structural Integrity	2	$6,000
Chlorine Analyzer Replacement	Install CL-17 analyzer to monitor Cl2 to Well #3	Process Control	2	$7,000
Fluoride Analyzer Replacement at Well #3	Install CA610 analyzer to monitor fluoride. Include programming and integration to SCADA.	Process Control	2	$18,000
Fluoride Analyzer Replacement at Well #4	Install CA610 Analyzer to Monitor Fluoride. Include programming and integration to SCADA.	Process Control	2	$18,000
Chlorinator Upgrades	Upgrade Chlorinator (Second of the two V10K Chlorinators)	Process Control	2	$16,000
Valve relocation	Relocate existing gate valves and isolation valves into building. Includes associated plumbing work. Convert swing checks to silent waffle style checks.	Flow Control	3	$69,000
Iron, Manganese and Arsenic Treatment	Install new oxidation/filtration system, including residuals handling system, chemical systems and associated equipment	Treatment	3	$12,800,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Doors	Install two hollow metal doors and frames for 2 wellhouses	Physical Security	2	$6,000
Physical Security Upgrades - Fencing	install new 8' chain link fence and a driveway gate	Physical Security	2	$42,000
Well #4 Rehabilitation	Inspect, clean and rehabilitate the well, replace pump end and replace motor to 250 hp inverted duty motor	Source Water	2	$64,000
Well #3 Chemical Injection	Install PLC with flow pacing of chemicals. Install phosphate, fluoride, chlorine (2 v10k Chlorinators) chemical systems including containment.	Process Control	3	$100,000
Well injection / meter pits	Install chemical injection, metering & pitot tube pit for well #3 and #4	Process Control	3	$100,000
TOTAL				**$14,767,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Cleveland North Wellfield

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Variable Frequency Drive Installation	Install new VFDs for well #5 and #6 motors (150 hp) and integrate into existing PLCs to control pressure	Motor Control	2	$120,000
Permanent Generator Installation	Install Stand Alone Generator with Auto Transfer Switch to run two existing wells and future third well	Emergency Power	3	$1,100,000
Copper service line replacement	Upsize and replace copper service line to PVC to address inaccurate water quality measurements	Water Quality	2	$2,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Doors	Install one hollow metal door and frame	Physical Security	2	$3,000
New well and well house	Install new well and well house	Source Water	3	$1,000,000
TOTAL				**$2,247,000**

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Cleveland South Wellfield

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Cleveland South Building Expansion and chemical upgrades	Expand Building with proper ventilation to put in VFDs, new MCC (4 wells, potential 5th, building lighting and HVAC, 3 chemical feed systems), relocate one of the chemicals (Chlorine or Fluoride) to a separate room, install new chemical injector lines and backup injector	Expansion	3	$950,000
Flow Meter Replacement	Replace existing 18" flow meter to mag meter	Flow Control	2	$26,000
Chlorine Booster Pump #2 Replacement	Replace Chlorine Booster Pump #2	Process Control	2	$3,000
Permanent Generator Installation	Install stand alone generator with auto transfer switch to run four existing wells and future fifth well	Emergency Power	3	$1,400,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Doors	Install one new door and two new frames	Physical Security	2	$6,000
New well with well house	Install new well and well house	Source Water	3	$1,000,000
PLC Integration and Chemical Feed Line Replacement	Upgrade PLC to 5000 platform with HMI integration including programming (float system pressure and chemical flow pacing). Install new chemical feed lines (chlorine, fluoride and phosphate) to injection pits.	Process Control	3	$100,000
TOTAL				**$3,507,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Edison Filtration Plant

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Roof repairs	Inspect and repair roof in main building, replace roof in generator house, well house 4,3,2,1	Structural Integrity	2	$130,000
PLC and HMI Upgrades	Upgrade existing 4 PLCs to 5000 platform with new HMI and programming	Process Control	3	$270,000
Well 1A Abandonment	Abandon Well 1A, demolish equipment and fill in with grout in place. Includes permitting costs.	Source Water	3	$100,000
New well #1B and well house	Install new well #1B and well house to replace well #1A and integrate to generator	Source Water	3	$1,000,000
High Service #1 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	$60,000
High Service #2 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	$60,000
High Service #3 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	$60,000
High Service #4 Pump Refurbishment and Motor Replacement	Refurbish pump and replace 200 hp motor with 150 hp inverted duty motor	Distribution System Supply	2	$60,000
Backwash pump #1 Pump Refurbishment and Motor Replacement	Refurbish pump and replace existing with 75 hp Inverted duty motor	Back Washing Gravity Filters	2	$35,000
Backwash pump #2 Pump Refurbishment and Motor Replacement	Refurbish pump and replace existing with 75 hp Inverted duty motor	Back Washing Gravity Filters	2	$35,000
Backwash pump #3 Pump Refurbishment and Motor Replacement	Refurbish pump and replace existing with 75 hp Inverted duty motor	Back Washing Gravity Filters	2	$35,000
Drain pit pump #2 Installation	Install Drain pit pump #2 with VFD	Operations	2	$23,000
New Orthophosphate System for Corrosion Control	Install new orthophosphate system for corrosion control and a new building	Corrosion Control	3	$440,000
Clearwell Inspection and Miscellaneous Repairs	Inspect 0.5 MG Clearwell. Add fall protection and perform miscellaneous repair	Finished Water Storage	2	$32,000
Dehumidification system	Replace and upgrade HVAC system	Chemical Storage	2	$120,000
Physical Security Upgrades - Cameras	Install security cameras and integrate with SCADA	Physical Security	2	$44,000
Sodium Hypochlorite System Upgrades	Abandon existing system and install three 2000 gal bulk tanks with single containment and new door at the back	Chemical Storage	3	$110,000
Filter Rehabilitation	Rehabilitation of 8 filter incl. underdrains, air scour, filter media, blowers, valves and actuators (around 30) etc.	Gravity Filters	3	$5,800,000
Hydrofluorosilicic Acid System Upgrades	Replace and upgrade fluoride system. Old steel tank (1300 gal) not in containment. Replace with 1300 - 1600 gal tank with containment.	Chemical Storage	3	$45,000
Integration to Generator	Integrate well 2A, High Service pump #3 and #4 to run on existing generator	Emergency Power	2	$12,000

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Edison Filtration Plant

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Air conditioning in Hypochlorite Room	Install A/C system in in hypo room to extend sodium hypochlorite storage life	Chemical Protection	3	$490,000
Aeration System Demolition	Aeration system needs to be removed and plumbing needs to be modified	Operations	2	$23,000
Old Brine Tank Demolition	Old Brine tank used for onsite generation system - needs demolished (located outside)	Operations	2	$11,000
Overhead Door/ Double Door Installation	Install overhead door or large double door in chemical room for tank removal/installations	Operations	2	$16,000
Flow meter replacement and vault upgrades	Replace 24" influent and 24" effluent flow meter, re-evaluate positioning of flowmeter (move into the yard); raw water flow meter - bring vault up to grade	Flow Control	3	$140,000
Chlorine dosing location re-evaluation	Re-evaluate raw hypochlorite injection pit location - currently has mixing issues.	Process Control	3	$19,000
TOTAL				**$9,170,000**

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Erskine Wellfield

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Permanent Generator Installation	Install permanent Generator with auto transfer switch. Integrate wells to run on generator.	Emergency Power	3	$430,000
PLC Upgrades	Upgrade existing PLC to 5000 platform including programming (flow pacing of fluoride, phosphate and chlorine feeds)	Process Control	3	$90,000
Chlorinator Upgrades	Install two V10K Chlorinators and Integrate into SCADA	Chemical Feed	2	$35,000
Backup chlorine injector	Install back-up chlorine injector for chlorination system	Chemical Feed	2	$4,000
Backup booster pump for chlorination system	Install back-up booster pump for chlorination system	Emergency	2	$3,000
Sump pump Installation	Install sump pump for metering pit	Maintenance	2	$6,000
Fluoride containment coating	Provide coating for fluoride containment walls and floor	Maintenance	2	$4,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Doors	Install three new doors and frames	Physical Security	2	$9,000
Roof Repairs	Repair roof in main building	Structural Integrity	2	$6,000
Connection to the Sewer System	Connect failing drywell system in well #2 to the nearest sewer	Process Control	3	$89,000
TOTAL				**$698,000**

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

North Filtration Plant

Project Name	Planned Scope	Purpose/ Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Dehumidification System Desiccant Wheel Replacement	Replace Desiccant Wheel	Equipment Protection	2	$38,000
HVAC System Replacement	Replace 5 HVAC units	Maintenance	2	$180,000
High Service #1 Pump, Motor Refurbishment and VFD Replacement	Rebuild High Service #1 Pump end and 200 hp Motor; Upgrade/replace existing VFD	Distribution Supply	2	$60,000
High Service #3 Pump refurbishment, Motor Refurbishment and VFD Replacement	Rebuild High Service #3 pump end and 200 hp motor; Upgrade/replace existing VFD	Distribution Supply	2	$60,000
High Service #4 Motor Replacement and VFD Installation	Replace High Service #4 200 hp motor and install VFD	Distribution Supply	2	$45,000
High Service Pump #2 VFD Installation	Install VFD for High Service pump #2	Motor Control	2	$27,000
PLC Upgrades	Upgrade existing PLC to 5000 platform with new HMI and programming	Process Control	3	$270,000
Chlorine Gas System Upgrades	Replace CL2 emergency gas shutoff valves, install new CL2 gas plumbing and rehabilitate chlorine scrubber's electrical, instrumentation and controls	Chemical Storage	3	$120,000
Parking Lot Improvements	Re-pave the parking lot; and re-paint parking spaces	Maintenance	2	$150,000
Well #1B Inspection, Cleaning and Rehabilitation	Inspect, clean and rehabilitate well #1B, replace/refurbish pump ends and motor	Source Water	2	$64,000
Well #2A Inspection, Cleaning and Rehabilitation	Inspect, clean and rehabilitate well #2A, replace/refurbish pump ends and motor	Source Water	2	$64,000
Well #3A Inspection, Cleaning and Rehabilitation	Inspect, clean and rehabilitate well #3A, replace/refurbish pump ends and motor	Source Water	2	$64,000
Well #5A Inspection, Cleaning and Rehabilitation	Inspect, clean and rehabilitate well #5A, replace/refurbish pump ends and motor	Source Water	2	$64,000
Carpet Replacement in Lower and Upper Level of Main Building	Replace carpet and padding in upper and lower level of the main building	Maintenance	2	$48,000
Sludge Pump #1 & #2 Replacement	Replace sludge pump #1 and #2	Operations	2	$28,000

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

North Filtration Plant

Project Name	Planned Scope	Purpose/ Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Recycle Pump #1 & #2 Replacement	Replace recycle pump #1 and #2	Operations	2	$28,000
Compressed Air Drier Unit Replacement	Replace compressed air drier unit with a 200 gallon tank with a new VFD Unit and a 200 gallon tank	Equipment Protection	2	$35,000
Physical Security	Install and integrate four security cameras into SCADA system	Physical Security	2	$44,000
New Orthophosphate System for Corrosion Control	Install new orthophosphate system for corrosion control and a new building	Corrosion Control	3	$430,000
Finished water flow meter and chemical feed line replacement	Install new pit including two isolation valves, new 30-inch mag meter with and new sump pump. Replace existing upstream and downstream requirements. Replace chemical feed lines.	Flow control	3	$270,000
Root Blower Rebuild / Replacement & Motor	Rebuild root blower and replace motor	Operations	2	$48,000
Replace Filter Valves	Replace pneumatic valves with electronic actuating valves in filters 1,2,3,4,5	Operations	2	$620,000
Main Building Maintenance	Regrout Main Building exterior limestone Bricks (West and north side of building)	Structural Integrity	2	$44,000
High service room maintenance	Regrout brick in high service room and shore up leak points	Structural Integrity	2	$11,000
Main Building Roof Repairs	Inspect and re-coat building roof	Maintenance	2	$22,000
Building Ceiling Repairs	Re-paint ceiling in High service room and Filter Room	Maintenance	2	$57,000
Clearwell Inspection and Repairs	Inspect clearwell, perform roof repairs, and install fall protection	Finished Water Storage	2	$88,000
North Sidewalk Repairs	Replace collapsing sidewalk including effluent Plant pipe rebed	Maintenance	2	$140,000
Window Repairs	Replace office side building windows	Maintenance	2	$85,000
New well with well house	Install new well and well house and integrate into generator	Source Water	3	$1,000,000
Pressure filtration Vessel Refurbishment 1,3,4,5	Refurbish pressure vessels 1,3,4 and 5	Process control	3	$2,600,000
Raw water actuating valves programming	Program EMI raw water actuating valves to operate	Process control	3	$100,000
TOTAL				**$6,904,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Olive GAC Plant

Project Name	Planned Scope	Purpose/ Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Roof Replacement	Replace main building and well house #1 roof. Install ladder to the roof.	Structural Integrity	3	$220,000
GAC Reactivation Vessels 1-6	Reactivate Absorption Media	VOC/SOC Removal	2	$210,000
GAC Reactivation Vessels 7-12	Reactivate Absorption Media	VOC/SOC Removal	2	$210,000
GAC Vessels Painting	Re-paint GAC Vessels	Maintenance	2	$52,000
GAC Vessels Flow Meter Installation	Install new flow meters on Vessels 1-12. Integrate devices to track back flow recording.	Flow Control	2	$110,000
Natural Gas Heating Unit Replacement	Replace three natural gas heating units	Building Heat	2	$32,000
PLC and HMI Upgrades	Upgrade existing PLC to 5000 platform with new HMI and programming	Process Control	3	$270,000
Well #1A Inspection, Cleaning and Rehab, Pump & Motor Refurbishment, VFD Installation	Inspect, clean and refurbish Well# 1A.; refurbish pump and upgrade to inverter duty motor and install VFD	Source Water	2	$120,000
Well #2A Inspection, Cleaning and Rehab, Pump & Motor Refurbishment, VFD Installation	Inspect, clean and refurbish Well# 2A.; refurbish pump and upgrade to inverter duty motor and install VFD	Source Water	2	$120,000
Well #3A Inspection, Cleaning and Rehab, Pump & Motor Refurbishment, VFD Installation	Inspect, clean and refurbish Well# 3A; refurbish pump and upgrade to inverter duty motor and install VFD	Source Water	2	$120,000
Well #4 Inspection, Cleaning and Rehab, Pump & Motor Refurbishment	Inspect, clean and refurbish Well# 4; refurbish pump and upgrade to inverter duty motor	Source Water	2	$64,000
Well #5 Inspection, Cleaning and Rehab, Pump & Motor Refurbishment	Inspect, clean and refurbish Well# 5; refurbish pump and upgrade to inverter duty motor	Source Water	2	$64,000
Physical Security Upgrades - Cameras	Install security cameras and integrate to SCADA	Physical Security	2	$43,000
Physical Security Upgrades - Doors	Install doors and frames for Well house 1 and 2	Physical Security	2	$6,000
Dehumidification System Upgrades	Replace existing dehumidification unit	Equipment Protection	2	$130,000
Permanent Generator Installation	Install stand alone generator with Auto Transfer Switch to run two wells #1 and #2	Emergency Power	3	$640,000
Iron and Manganese Treatment	Install new oxidation/filtration system, including residuals handling system, chemical systems and associated equipment	Treatment	3	$17,500,000
Air conditioning in Hypochlorite Room	Install A/C system in in hypo room to extend hypo storage life	Chemical Storage	3	$490,000
Lighting Upgrades	Convert all existing lighting (18 Fluorescents & 24 High bay Metal Halide) to LED. Integrate all building lighting & essential equipment to run on small generator.	Lighting	2	$14,000
Flow meter Installation	Install new 30" mag meter with upstream and downstream valving to aid in future replacements.	Flow Control	2	$99,000
TOTAL				**$20,514,000**

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Pinhook Filtration Plant

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Well #1A Inspection, Cleaning and Rehabilitation	Inspect, clean and rehabilitate Well #1A	Source Water	2	$56,000
Well #5 Inspection, Cleaning and Rehabilitation	Inspect, clean and rehabilitate Well #5	Source Water	2	$56,000
High Service #1 pump refurbishment and motor replacement	Refurbish HS pump #1 and replace motor with 200 hp inverted duty motor	Distribution Supply	2	$69,000
High Service #2 pump refurbishment and motor replacement	Refurbish HS pump #2 and replace motor with 200 hp inverted duty motor	Distribution Supply	2	$69,000
High Service #3 pump refurbishment and motor replacement	Refurbish HS pump #3 and replace motor with 200 hp inverted duty motor	Distribution Supply	2	$69,000
High Service #4 pump refurbishment and motor replacement	Refurbish HS pump #4 and replace motor with 200 hp inverted duty motor	Distribution Supply	2	$69,000
PLC Upgrades and HMI Integration	Program existing PLC 5000 platform with new chemical dosing strategy	Process Control	3	$58,000
Permanent Generator Installation	Add a new generator for Wells #2,3,4	Emergency Power	3	$430,000
Automatic Transfer Switch Replacement	Replace auto transfer switch in existing generator	Emergency Power	2	$64,000
Physical Security Upgrades - Cameras	Install security cameras and integrate to SCADA	Physical Security	2	$43,000
Physical Security Upgrades - Doors	Install doors and frames for Well house 1 and 2	Physical Security	2	$6,000
Well #2 Replacement	Replace Well #2	Source Water	3	$840,000
Well #3 Replacement	Replace Well #3	Source Water	3	$840,000
Well #4 Replacement	Replace Well #4	Source Water	3	$840,000
Backwash pumps #1,#2 and #3 Refurbishment	Refurbish backwash pumps #1 #2 #3	Process Control	2	$130,000
Drain pumps #1 and #2 Refurbishment	Refurbish drain pumps #1 and #2	Process Control	2	$81,000
Fluoride Tank Storage Upgrades	Increase fluoride bulk capacity from 900 gals to 1600 gals	Chemical Feed	2	$18,000
Filter Weir Replacement	Replace filter weir	Process Control	2	$37,000
Filter Valve Replacement	Replace 21 (nine 10” valves and twelve 14” valves) valves/actuators	Process Control	2	$570,000
Raw Influent Flow Meter Replacement	Replace existing 24" mag meter	Flow Control	2	$33,000
Finished water Flow Meter Replacement	Replace existing 24" mag meter. Re-locate pit to a better location for future replacements	Flow Control	3	$70,000
Roof Replacement and Repairs	Replace flat roof membrane sections and miscellaneous repair work on the flat metal roof section.	Structural Integrity	2	$30,000
Pre-chlorination Chemical Feed Line Replacement	Replace pre-chlorination chemical feed lines	Chemical Feed	3	$100,000
TOTAL				**$4,578,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

South Wellfield

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
New Water Main	Install additional water main from South WTP into South pressure zone	Pump directly into South Pressure Zone	3	$920,000
Well #4A Inspection, Cleaning and Rehab	Inspect, clean (double disc surge cleaning) and rehabilitate the wells; upgrade to inverter duty motor	Source Water	2	$64,000
Well #5 Inspection, Cleaning and Rehab	Inspect, clean (double disc surge cleaning) and rehabilitate the wells; upgrade to inverter duty motor	Source Water	2	$64,000
Permanent Generator Installation	Install permanent generator with auto transfer switch	Emergency Power	3	$430,000
PLC and HMI upgrades	Upgrade existing PLC to 5000 platform with new HMI	Process Control	2	$180,000
GAC Vessels 1-4 Reactivation	Reactivate media in vessels 1-4. Needs to be reactivated every 5-10 years depending on usage	VOC/SOC Removal	2	$150,000
Dehumidification System Replacement	Replace HVAC unit	Equipment Protection	2	$120,000
GAC Vessel Flow meter replacement	Replace four 6" flow meters on GAC vessels	Track backwash water usage	2	$36,000
New Chlorine Scrubber Unit Installation	Install new dry chlorine scrubbing equipment to handle leak from 1 one-ton gas cylinders	Safety	3	$580,000
Roof Repairs	Repair roofs on well houses #4A and #5	Structural Integrity	2	$12,000
New Well and Well house Installation	Install new well with well house	Redundancy	3	$1,000,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$44,000
Chemical Feed line replacement	Replace fluoride, chlorine and phosphate discharge piping	Maintenance	3	$100,000
TOTAL				**$3,700,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Fellows Booster Station

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Pump Station Improvements	New building, New pumps/equipment (4 local service pumps; 3 high service pumps), New generator, New transformer, New flow meters/valves, VFD drives, Demolition of existing building, New cathodic protection	Aging Infrastructure	3	$9,400,000
Inspection and Cleaning of Clearwell	Inspect and clean tank with the help of divers to allow tank to remain in-service	Maintenance	2	$48,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Doors	Install one hollow metal door and frame	Physical Security	2	$3,000
Physical Security Upgrades - Fencing	Install new 8' chain link fence and a drive way gate	Physical Security	2	$56,000
TOTAL				**$9,529,000**

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Ireland Tank and Booster Station

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Pump # 1 refurbishment and motor replacement	Refurbish pump with new pump end. Replace motor with 15 Hp inverted duty motor.	Distribution Supply	2	$12,000
Pump # 2 refurbishment and motor replacement	Refurbish pump with new pump end. Replace motor with 15 Hp inverted duty motor.	Distribution Supply	2	$12,000
Pump # 3 refurbishment and motor replacement	Refurbish pump with new pump end. Replace motor with 15 Hp inverted duty motor.	Distribution Supply	2	$12,000
Permanent Generator Installation	Install permanent Generator with auto transfer switch	Emergency Power	3	$160,000
PLC and HMI upgrades	Upgrade existing PLC to 5000 platform with new HMI and programming	Process Control	3	$90,000
Tank Rehabilitation	Shutdown, Inspect and clean 3.5 MG Tank. Provide interior and exterior coatings. Add cathodic protection. Full tank exterior paint stripped down to metal with dust tent.	Preventative Maintenance	3	$1,500,000
Flow meter replacement	Replace existing 8" flow meter with mag meter. Includes piping or valve modifications required.	Flow control	2	$6,000
Valve pit refurbishment	Replace cover on existing valve pit with watertight hatch and regrade around pit	Maintenance	2	$6,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
TOTAL				**$1,820,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Locust Booster Station

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
New Pump #3 Installation	Includes design of new pump 3, motor and drive, controls and programming; pump base and the associated piping already in place. Need to include engineering to look at hydraulics	Distribution Supply	3	$150,000
Pump #1 and #2 replacement	Update existing pumps 1 and 2 to correct size	Distribution Supply	2	$220,000
Permanent Generator Installation	Install permanent Generator with auto transfer switch	Emergency Power	3	$640,000
PLC and HMI upgrades	Upgrade existing PLC to 5000 platform with new HMI	Process Control	3	$90,000
Flow meter replacement	Replace existing 8" flow meter with mag meter. Includes piping or valve modifications required.	Flow control	2	$6,000
Roof Repairs	Membrane roof needs to be replaced	Structural Integrity	2	$6,000
Physical Security Upgrades - Cameras	Install security camera and integrate to SCADA	Physical Security	2	$22,000
TOTAL				**$1,134,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

SR 23 Booster Station

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Permanent Generator Installation	Install permanent Generator with auto transfer switch	Emergency Power	3	$250,000
#1 Pump refurbishment , motor replacement and VFD installation	Add new impeller, replace 30 hp motor and add VFDs	Distribution Supply	2	$34,000
#2 Pump refurbishment , motor replacement and VFD installation	Add new impeller, replace 30 hp motor and add VFDs	Distribution Supply	2	$34,000
PLC and HMI upgrades	Upgrade existing PLC to 5000 platform with new HMI	Process Control	3	$90,000
Flow meter replacement	Replace existing 6" flow meter with mag meter. Includes piping or valve modifications required.	Flow control	2	$5,000
Dehumidification Upgrades	Install new hydronic chiller	Equipment Protection	2	$9,000
Cathodic Protection	Design and install Impressed Current Cathodic Protection (ICCP) system	Corrosion Protection	2	$33,000
Physical Security Upgrades - Cameras	Install CCTV camera and integrate with SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Fencing	Install new 8' chain link fence and a drive way gate	Physical Security	2	$6,000
TOTAL				**$483,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Topsfield Booster Station

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
#1 Pump refurbishment, motor replacement and VFD installation	Replace impeller, seals, 20 hp motor and add drives for pump #1	Distribution Supply	2	$33,000
#2 Pump refurbishment, motor replacement and VFD installation	Replace impeller, seals, 20 hp motor and add drives for pump #2	Distribution Supply	2	$33,000
PLC and HMI upgrades	Upgrade existing PLC to 5000 platform with new HMI	Process Control	3	$90,000
Flow meter replacement	Replace existing 8" flow meter with megameter. Includes piping or valve modifications required.	Flow control	2	$6,000
Dehumidification Upgrades	Install new hydronic chiller	Equipment Protection	2	$9,000
Cathodic Protection	Design and install Impressed Current Cathodic Protection (ICCP) system	Corrosion Protection	2	$37,000
Pipe repair	Repair broken underground pipes causing water intrusion issue and affecting station equipment	Equipment Protection	2	$23,000
TOTAL				**$231,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Winterberry Booster Station

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Permanent Generator Installation	Install permanent Generator with auto transfer switch	Emergency Power	3	$640,000
#1 Pump refurbishment , motor replacement and VFD replacement	Add new impeller, replace 50 hp motor and add VFDs and enclosures	Distribution Supply	2	$58,000
#2 Pump refurbishment , motor replacement and VFD replacement	Add new impeller, replace 125 hp motor and add VFD and enclosures	Distribution Supply	2	$110,000
#3 Pump refurbishment , motor replacement and VFD replacement	Add new impeller, replace 125 hp motor and add VFDs	Distribution Supply	2	$110,000
PLC and HMI upgrades	Upgrade existing PLC to 5000 platform with new HMI	Process Control	3	$90,000
Cathodic Protection	Design and install Impressed Current Cathodic Protection (ICCP) system	Corrosion Protection	2	$33,000
Flow Meter Replacement	Replace existing with new 12-inch mag meter	Flow control	2	$17,000
Driveway	Add new driveway	Operations	2	$3,000
Physical Security Upgrades - Cameras	Install CCTV camera and integrate with SCADA	Physical Security	2	$22,000
Physical Security Upgrades - Fencing	Install new 8' chain link fence and a drive way gate	Physical Security	2	$8,000
Suction line Upsizing	Evaluate and upsize existing 16" suction line to a larger main to use full output capacity of Winterberry Booster station	Efficiency	3	$9,800,000
TOTAL				**$10,891,000**

ARCADIS

SOUTH BEND WATER WORKS

SOUTH BEND, INDIANA

Capital Needs

Northwest Elevated Tank

Project Name	Planned Scope	Purpose/Driver	Project Type	Total Estimated Project Cost (2020 dollars)
Tank Improvements	Includes exterior overcoat, wet interior roof repaint, and installation of fall protection with lift assist, cathodic system replacement and painters rails installation and repainting pit while tank is down	Maintenance / Corrosion Control	3	$830,000
Physical Security	Install security camera and integrate to SCADA	Physical Security	2	$22,000
12"' Swing Check Valve Replacement	Replace 12" swing check valve	Flow control	2	$15,000
16" Altitude Valve Re-build/Repair	Re-build / Repair 16" altitude valve	Flow control	2	$49,000
TOTAL				**$916,000**

SOUTH BEND WATER WORKS
SOUTH BEND, INDIANA

Capital Needs

Distribution System Improvements

Project Name	Planned Scope	Purpose	Project Type	Total Estimated Project Cost (2020 dollars)
Water Main, Hydrant & Valve Replacement	Replace 1% of water mains annually over a five year period	Revenue	3	$36,400,000
Water Meter Replacement	Replace water meters annually over a five year period	Revenue	1	$4,000,000
Lathrop St-Bendix Drive to Portage Ave	Replacement of 4,100 ft. of 12" water main including street reconstruction	Distribution Supply	3	$990,000
Trail ROW-Dublin St to Cripe St	Replacement of 1,370 ft. of 12" water main including street reconstruction	Distribution Supply	3	$330,000
First New 2 MG Elevated Storage Tank[1]	First of two new storage tanks for Central Pressure Zone; includes $1M allowance for water main installation and land acquisition	Distribution Storage and Redundancy	3	$8,100,000
Second New 2 MG Elevated Storage Tank[1]	Second of two new storage tanks for Central Pressure Zone; includes $250,000 allowance for water main installation costs; assumes tank will be installed on existing South Bend property and large main is located nearby	Distribution Storage and Redundancy	3	$7,400,000
30st Main Replacement (Railroad Crossing)	Replace 6" main under rail crossing	Distribution Supply	3	$200,000
Green Lawn Main Replacement (Railroad Crossing)	Replace 6" main under rail crossing	Distribution Supply	3	$200,000
TOTAL				**$57,620,000**

Notes:
1. Based on high level storage evaluation and to be used for planning purposes only. Additional evaluation is needed to identify the optimal number, location and size of tanks required. Costs include

SOUTH BEND WATER WORKS
SOUTH BEND, INDIANA

Capital Needs

Other Capital Improvements

Item	Description	Project Type	Total Estimated Project Cost (2020 dollars)
Vehicle Replacement	Replacement vehicles annually over a five year period	N/A	$2,500,000
New Office Building	New Building for Customer Service, Admin, and Billing	3	$2,000,000
Technology Updates	Assess current hardware and software systems for their ability to meet needs during an emergency, including if staff must work off site. In particular, transition to laptop computers.	N/A	$50,000
Business Continuity Plan	Develop a Business Continuity Plan to guide return to normal operations after an event.	N/A	$50,000
Assessment of SCADA Hardware	Assess SCADA location and equipment to identify upgrades needed to ensure security and resilience	N/A	$15,000
Asset Management Program	Development of an up-to-date inventory of all vertical and horizontal assets, assessment of asset condition and development of risk score, that can be carried into the Comprehensive Water Master Plan.	N/A	$300,000
Comprehensive Water Master Plan	Comprehensive evaluation of all water supply, treatment and distribution system needs based on asset risk, updated water demand projects, and current and future regulatory requirements; includes use of existing hydraulic model (i.e., no updates and/or calibration); alternatives evaluation; project grouping and prioritization, and a risk-based 15-year or 20-year capital improvement plan for entire system.	N/A	$400,000 - $600,000
Lead Service Line (LSL) Inventory	Development of an initial records based LSL inventory as required under the final Lead and Copper Rule Revisions.	N/A	$100,000
Lead Service Line Replacement (LSLR) Plan	Development of a plan for full LSLR as required under the final Lead and Copper Rule Revisions.	N/A	$100,000
TOTAL			**$5,615,000**

ATTACHMENT EH-5
TO BE LATE FILED