HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
ADMINISTRATION DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
A-1	**Security Upgrades (Physical & Cyber):** Install security cameras at various HBPW locations/facilities to be monitored 24 hours per day. The first priority will be to add cameras at the electric substations.	$ 250,000				
A-2	**Business Park Improvements:** This project is to continue to improve the City/BPW-owned Business Park just east of Shinn Lane to make the site more marketable for future businesses. The site has been certified with the State of Missouri and future improvements could be for stormwater management, new roadways and entrances, and possible other items. Development expenditures could be larger if tenant interest in the park increases.	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000
A-3	**Facility Improvements:** An improved physical layout for our customer service areas, customer parking, administrative offices, warehouse and service truck areas would make the HBPW customer experience safer and more pleasant as well as allow for improved safety, communications and workflow for staff.	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000
A-4	**Meter Changeout/AMR to AMI conversion:** The water meter portion of the 2004 Meter Project is becoming more and more difficult to support. The Board approved moving forward with the conversion in FY 18-19, and the project will continue through multiple years.	$ 250,000				
A-5	**SCADA Radio Replacement:** The existing radio hardware will no longer be supported and will need to be replaced. The SCADA radio system allows us to maintain communications with equipment in the field at HBPW facilities.	$ 150,000				
SUBTOTAL ADMINISTRATIVE PROJECTS		**$ 1,100,000**	**$ 450,000**	**$ 450,000**	**$ 450,000**	**$ 450,000**
PROPOSED FINANCING						
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING						
FROM BPW FUNDS		**$ 1,100,000**	**$ 450,000**	**$ 450,000**	**$ 450,000**	**$ 450,000**

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
IT DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
IT-1	**Computer Hardware/Software Upgrades:** Computer upgrades, credit card swipers, and other various equipment replacements. This cost does not include existing software and hardware maintenance costs, which are included in the Operating budget.	$ 45,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000
IT-2	**Vulnerability Assessment:** Contract with a third party to take a look at our current cybersecurity measures and look for any vulnerabilities we may have.	$ 28,000				
SUBTOTAL ADMINISTRATIVE PROJECTS		**$ 73,000**	**$ 40,000**	**$ 40,000**	**$ 40,000**	**$ 40,000**
PROPOSED FINANCING						
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING						
FROM BPW FUNDS		**$ 73,000**	**$ 40,000**	**$ 40,000**	**$ 40,000**	**$ 40,000**

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
ELECTRIC DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
E-1	**Oakwood to Southside Tie Upgrades (34.5kV Line):** Install a new 34.5kV line from Oakwood Substation to Southside Substation. This would close the 34.5kV loop, and add flexibility and reliability to the electrical system. This includes relocating the 13.8kV line (circuits 22 & 24) to further enhance resiliency.	$ 1,000,000				
E-2	**Interconnect Agreement:** This will be an additional tie at the Finn substation to provide emergency backup power. This is expected to be reimbursed 100% unless we decide to do a bilateral connection.		$ 329,800			
E-3	**Demolition of 73 34.5kV Line:** The 73 line is functionally obsolete and this will save on the wholesale distribution charges that Ameren presently assesses.	$ 96,000				
E-4	**34.5kV Loop Upgrades:** Reconductor (increase wire size) the existing 34.5kV line from Southside Sub to Indian Mounds Sub from 477 to 795. This estimate includes new wire, poles, etc. This project would make the entire 34.5kV loop 795 wire and add increased flexibility and more convenient maintenance to the system.				$ 500,000	$ 1,500,000
E-5	**Street Light Upgrades - Thoroughfares:** This yearly expense would support the street light improvement plan for thoroughfares.	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
E-6	**Street Light Upgrades - Residential Neighborhoods:** This yearly expense would support street light improvements in residential neighborhoods.	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
E-7	**Fleet Management:** Continuous upgrades of the company fleet. The 2023-2024 purchase will be for a new truck 31 (dump truck). The 2024-2025 purchase includes a vac truck for hydro excavations to be split with the Water Fund. We plan to begin replacing one bucket truck a year.	$ 250,000	$ 350,000	$ 250,000	$ 250,000	$ 250,000

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
ELECTRIC DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
E-8	**Utility Relocations/Community Development:** The City and State have projects that come up throughout the year in which utilities need to be relocated. The Board approved a policy to budget a certain amount yearly to fund these relocations. Also, the BPW periodically assists City departments (such as Parks and Recreation) with various lighting projects.	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000
E-9	**IM Substation Rebuild:** The Indian Mounds substation was originally constructed in the 1960's and 10 years ago the breakers and switchgear were rebuilt. The transformer is already in the planning stages of being replaced. The remaining parts of the substation are original and nearing the end of their life expectancy. This project would be to update those components. Engineering and land acquisition are underway with equipment rehabilitation and construction to follow.	$ 400,000		$ 2,700,000		
E-10	**West Substation 2nd Transformer:** It is anticipated that future electric load growth will take place in the Northwest area of the City. A new distribution transformer in this area will improve reliability and better serve these customers. Work will commence in the future as electric demand requires.				$ 250,000	$ 1,750,000
E-11	**Reconductor of 13.8kV Line:** To provide added reliability for the expected load associated with the solar project, a portion of the existing 13.8kV must be rewired.	$ 500,000				
E-12	**Overhead to Underground Conversion:** Converting existing overhead power lines to underground to provide greater reliability. Many of these lines are approaching the end of their useful life.	$ 410,000	$ 410,000	$ 410,000	$ 410,000	$ 410,000
SUBTOTAL ELECTRIC PROJECTS		**$ 2,796,000**	**$ 1,229,800**	**$ 3,500,000**	**$ 1,550,000**	**$ 4,050,000**
PROPOSED FINANCING		**$ 1,496,000**	**$ -**	**$ 2,700,000**	**$ 500,000**	**$ 1,500,000**
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING			**$ 329,800**			

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
ELECTRIC DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
FROM BPW FUNDS		**$ 1,300,000**	**$ 900,000**	**$ 800,000**	**$ 1,050,000**	**$ 2,550,000**

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
WATER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
	DISTRIBUTION SYSTEM UPGRADES					
W-1	**Infrastructure Renewal/Replacement:** Ongoing yearly expense to replace deteriorated and/or substandard water lines. Prioritization will be per the Water System Study & Owner Supervised Program, starting with the priority #2 items that are affordable.	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
W-2	**Lead Service Line Replacement:** Replace non-conforming service lines. The first step will be an inventory of the system.	$ 25,000	$ 25,000			
W-3	**Water Line/Hydraulic Upgrades for Industrial Area:** This project would bring more water for usage and fire protection (ISO ratings) to the Industrial Loop located near Warren Barrett Drive and Hwy 61, and it was a recommendation of the Water System Study. Work will commence as the need arises.					$ 950,000
W-4	**Utility Relocations/Community Development:** The City and State have projects that come up throughout the year in which utilities need to be relocated. The Board approved a policy to budget a certain amount yearly to fund these relocations.	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000
W-5	**West Side Booster Station:** This was a priority #2 recommendation of the Water System Study. It is likely that land will have to be purchased in the area near West Ely and Head Lane in order to construct the booster station. The water lines were installed as part of the current 2015 SRF projects. Work will commence as land becomes available and needs for the booster station arise.					$ 750,000
W-6	**Valve Exercising Machine:** This machine is becoming very old and has been rebuilt several times.		$ 100,000			
	VEHICLES					
W-7	**Fleet Management:** Continuous upgrades of the company fleet. Replace approximately one water department utility vehicle every other year.	$ 40,000		$ 40,000		$ 40,000

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
WATER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
W-8	**Loader:** Replacement of the unit (truck 38) that is almost 40 years old. Used for hauling rock mainly at the warehouse. This will be split 50/50 between the Water and Sewer Funds.	$ 75,000				
W-9	**Vacuum Truck for Hydro Excavation:** Excavation for setting new poles is hard on equipment. This truck would be for this specific purpose and would be split with the Electric Fund.		$ 200,000			
	WATER TREATMENT PLANT					
W-10	**Infrastructure Renewal/Replacement:** These items vary year to year, but include replacement and/or upgrading of the following equipment: repainting of the lime silo, pump rebuilds, treatment basin concrete repairs, tuck pointing of Filter and Chemical buildings, chemical feeders, meters, monitoring equipment, laboratory equipment, mixers, motors, etc.	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
W-11	**Primary Clarifier Scraper:** To replace the current 1993 steel structure, which is at the end of its useful life. The clarifier is used to remove solids from the treatment process.			$ 300,000		
W-12	**Paddle Wheel Gearbox:** In conjunction with the replacement of the primary clarifier scraper, the paddle wheel gearbox and bearings would also be replaced as they are also at the end of their useful life.		$ 50,000			
W-13	**Pre-Sedimentation Basin:** Cracks in the walls were sealed in 2017. The next step is to repair the buckling floor of the basin. This project includes adding baffles to improve the treatment effectiveness of the structure.	$ 25,000	$ 350,000			
W-14	**Demolish Old Clearwell:** The structure is unused and obsolete and removing it would allow the space to be used for other purposes.				$ 200,000	

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
WATER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
W-15	**Demolish Old Backwash Tank:** The structure is unused and obsolete and removing it would allow the space to be used for other purposes. The proposed new pumps for the GAC project will also be capable of backwashing filters.				$ 30,000	
W-16	**Indian Mounds Water Tower Repainting:** To replace the current application of paint, which will be nearing the end of its useful life. Tank was last painted in 2003. This will require containment. This project will be bid together with the Veterans water tower.				$ 500,000	
W-17	**Veterans Water Tower Repainting:** To replace the current application of paint, which will be nearing the end of its useful life. Tank constructed in 2001. This will require containment.			$ 500,000		
W-18	**Gravity Filter Rehab:** Gravity filters are blown through and need upgraded at main building of water plant.	$ 500,000				
W-19	**Transfer Service Pump Upgrade:** Upgrade the impellers of the new transfer pumps to allow the pumps to be used to backwash the gravity filters.	$ 50,000				
W-20	**Bypass for Backwash:** Installation of a new water main to allow water to flow from the clearwell to the old transfer well. This will allow the old transfer pumps to be used to backwash the gravity filters.	$ 150,000				
W-21	**Pump House Roof:** This hasn't been replaced since 2004.	$ 200,000				
W-22	**Chemical Building Roof:** This is in need of replacement.				$ 30,000	
W-23	**WonderWare Upgrades:** Upgrades to the SCADA system to be split with the WWTP	$ 100,000				
SUBTOTAL WATER PROJECTS		**$ 1,435,000**	**$ 995,000**	**$ 1,110,000**	**$ 1,030,000**	**$ 2,010,000**
PROPOSED FINANCING						
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING						
FROM BPW FUNDS		**$ 1,435,000**	**$ 995,000**	**$ 1,110,000**	**$ 1,030,000**	**$ 2,010,000**

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
SEWER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
	COLLECTION SYSTEM UPGRADES					
S-1	**Infrastructure Renewal/Replacement:** Ongoing yearly expenses for I & I corrections. These funds could go for investigation (flow meters), engineering, and repairs.	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000
S-2	**Downtown Sanitary Sewer Overflow (SSO) Elimination:** A portion of this project may be funded by the remaining bonding capacity from the Sewer Bond issue. We are committed to continuing efforts to eliminate the SSO. It may include I&I monitoring, manhole lining equipment/contracting, an easement cleaning machine, flow monitors, relining of specific sewer lines, and elimination of unneeded sewer lines.	$ 450,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
S-3	**Utility Relocations/Community Development:** The City and State have projects that come up throughout the year in which utilities need to be relocated. The Board approved a policy to budget a certain amount yearly to fund these relocations.	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
S-4	**Lift Station Rehabilitations:** Currently there are 17 lift stations in the sanitary sewer system. These funds would be for the continuous updating and replacement of the electrical, mechanical, and structural components of one lift station per year. Costs are estimated to be $20,000 to $50,000 depending on the lift station.	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
	WASTEWATER TREATMENT PLANT					
S-5	**NPDES Permit:** This will involve improvements/changes to the existing treatment process driven by more stringent permit regulations.		$ 150,000	$ 250,000		

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
SEWER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
S-6	**Electric Upgrades to the Oxygen and Digested Pump Buildings/RAS Pump Building Breaker Panels:** Part of this project is to replace the existing electrical controls in the Oxygen and Digested pump buildings. The existing system was installed in 1981, and is nearing the end of its useful life. The remainder of this project will be to replace the breaker panels on the RAS Pump building. These are original (40+ years old) and parts are becoming more expensive. Replacement will require an engineer to assess.	$ 400,000				
S-7	**Compressors:** We have had significant issues with these over the last year which has caused significant O&M costs. These will need to be replaced which could happen yet in FY23.	$ 150,000				
S-8	**Wilson Street Lift Station:** The structure is subject to flooding, though it is not designed to handle the forces of floodwaters. The first year funds would be for engineering costs for a evaluation of alternatives to the current structure and equipment, followed by construction in the following year.	$ 35,000		$ 300,000		
S-9	**Energy Efficiency Upgrades:** Replacing lights with LED, more efficient heating and cooling, new implant water system, new cooling tower, etc. to save on energy costs.	$ 225,000	$ 50,000			
S-10	**WWTP Lab Upgrades:** To increase the efficiency and functionality of the WWTP lab.	$ 75,000				
S-11	**Chlorine Building Roof Replacement:** The current roof dates to 1993 and is approaching the end of its useful life. All other roofs were replaced with the 2013 bond proceeds.				$ 30,000	

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
SEWER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
S-12	**Clarifier Rehab:** To coat all 3 clarifiers to extend their useful life and improve their function and efficiency. This would also include new drain valves to allow flexibility in taking down the clarifiers for maintenance and new gear boxes which are needed in case a clarifier goes down which negatively affects the quality of water.	$ 300,000	$ 300,000	$ 300,000		
S-13	**Storage Shed:** Material is currently being housed in the chlorine building and elsewhere and this would allow for consolidation of material.	$ 50,000				
S-14	**WonderWare Upgrades:** Upgrades to the SCADA system to be split with the WTP.	$ 100,000				
S-15	**Grit Chamber / Bar Screen / Influent Pump:** Adding a coarse bar screen and rehabbing the grit chamber to reduce solids coming into the plant. Would also possibly replace the gate valve at the head of the plant to allow for flow shut off if needed.				$ 750,000	$ 1,250,000
	VEHICLES					
S-16	**Fleet Management:** Continuous upgrades of the company fleet. Replace approximately one sewer department utility vehicle every other year.	$ 50,000		$ 50,000		$ 50,000
S-17	**Sewer Cleaning and Vacuum Truck:** Currently there are two vacuum trucks. This new truck would replace the older of the two (a 2008 model - truck 37).		$ 400,000			
S-18	**Loader:** Replacement of the old unit (truck 38) that is almost 40 years old. Used for hauling rock mainly at the warehouse. This will be split 50/50 between the Water and Sewer Funds.	$ 75,000				
SUBTOTAL SEWER PROJECTS		**$ 2,070,000**	**$ 1,560,000**	**$ 1,560,000**	**$ 1,440,000**	**$ 1,960,000**
PROPOSED FINANCING						
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING						
FROM BPW FUNDS		**$ 2,070,000**	**$ 1,560,000**	**$ 1,560,000**	**$ 1,440,000**	**$ 1,960,000**

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
STORMWATER DEPARTMENT

A yellow highlight denotes financing is intended

PROJECT #	PROJECT DESCRIPTION	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
	COLLECTION SYSTEM UPGRADES					
SW-1	**Hydraulic-Analysis Study:** Contracted full assessment of the stormwater system to determine the areas needed for replacement.	$ 250,000	$ 750,000	$ 500,000		
SW-2	**Stormwater Utility Establishment:** After a funding source is established, the 1st year would include items to allow the stormwater department to begin making repairs, such as 1-2 vehicles, a vac truck, a dump truck, etc. The subsequent years would include the construction work for the system. Financing would likely be obtained first to provide cash upfront until revenues started coming in.		$ 500,000	$ 800,000	$ 800,000	$ 800,000
SUBTOTAL STORMWATER PROJECTS		**$ 250,000**	**$ 1,250,000**	**$ 1,300,000**	**$ 800,000**	**$ 800,000**
PROPOSED FINANCING		**$ 250,000**	**$ 1,250,000**	**$ 1,300,000**		
FROM BPW FUNDS		**$ -**	**$ -**	**$ -**	**$ 800,000**	**$ 800,000**

HBPW PROPOSED FIVE YEAR PLAN OF CAPITAL IMPROVEMENTS
SUMMARY OF ALL DEPARTMENTS

	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028
SUBTOTAL ADMINISTRATIVE PROJECTS	$ 1,100,000	$ 450,000	$ 450,000	$ 450,000	$ 450,000
PROPOSED FINANCING	-	-	-	-	-
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	-	-	-	-
FROM BPW FUNDS	**$ 1,100,000**	**$ 450,000**	**$ 450,000**	**$ 450,000**	**$ 450,000**
SUBTOTAL IT PROJECTS	$ 73,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000
PROPOSED FINANCING	-	-	-	-	-
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	-	-	-	-
FROM BPW FUNDS	**$ 73,000**	**$ 40,000**	**$ 40,000**	**$ 40,000**	**$ 40,000**
SUBTOTAL ELECTRIC PROJECTS	$ 2,796,000	$ 1,229,800	$ 3,500,000	$ 1,550,000	$ 4,050,000
PROPOSED FINANCING	1,496,000	-	2,700,000	500,000	1,500,000
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	329,800	-	-	-
FROM BPW FUNDS	**$ 1,300,000**	**$ 900,000**	**$ 800,000**	**$ 1,050,000**	**$ 2,550,000**
SUBTOTAL WATER PROJECTS	$ 1,435,000	$ 995,000	$ 1,110,000	$ 1,030,000	$ 2,010,000
PROPOSED FINANCING	-	-	-	-	-
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	-	-	-	-
FROM BPW FUNDS	**$ 1,435,000**	**$ 995,000**	**$ 1,110,000**	**$ 1,030,000**	**$ 2,010,000**
SUBTOTAL SEWER PROJECTS	$ 2,070,000	$ 1,560,000	$ 1,560,000	$ 1,440,000	$ 1,960,000
PROPOSED FINANCING	-	-	-	-	-
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	-	-	-	-
FROM BPW FUNDS	**$ 2,070,000**	**$ 1,560,000**	**$ 1,560,000**	**$ 1,440,000**	**$ 1,960,000**
SUBTOTAL STORMWATER PROJECTS	$ 250,000	$ 1,250,000	$ 1,300,000	$ 800,000	$ 800,000
PROPOSED FINANCING	250,000	1,250,000	1,300,000	-	-
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	-	-	-	-
FROM BPW FUNDS	**$ -**	**$ -**	**$ -**	**$ 800,000**	**$ 800,000**
FIVE YEAR PLAN DEPARTMENT TOTALS	$ 7,724,000	$ 5,524,800	$ 7,960,000	$ 5,310,000	$ 9,310,000
PROPOSED FINANCING	1,746,000	1,250,000	4,000,000	500,000	1,500,000
THIRD PARTY CAPITAL CONTRIBUTIONS/ GRANT FUNDING	-	329,800	-	-	-
FIVE YEAR PLAN TOTAL FROM BPW FUNDS	**$ 5,978,000**	**$ 3,945,000**	**$ 3,960,000**	**$ 4,810,000**	**$ 7,810,000**