



Capital Improvement Project – Westside Plant, College Ave., Deerfield Pumpstation

- Performed Treatment Plant, Pumping Station, Limited Sewer Line Study in 2016 to develop future needed capital improvement projects to prevent catastrophic failures.
- Reports realized a need for total upgrades of **\$15,416,675** at our Westside Treatment Plant, **\$5,412,030** in the studied sewer line areas, and **\$2,347,325** at our main sewer pumping stations.
- Completed **\$1,929,000** project on College Ave. and Deerfield, which was financed through a private, interest only 3-year loan. This project includes paying this short-term loan off and rolling it into a low rate, long term bond. We will also have funding to replace **\$500,000 of Main Sewer Line annually** moving forward throughout our service areas.
- Need an additional **\$13,030,231**, low interest long term bond to do critical rehabilitation work at our Westside Treatment Plant. We have secured financing through both VA DEQ and WV DEP. Shopped both states for terms and selected the lowest rates to save the most amount of money.
- To make this project happen and continue to invest money into our annual capital improvements program, the current sewer rate of **\$8.69 per 1000 gallons needs to gradually be increased to \$13.50 per 1000 gallons over the next 5 years.**
- Last sewer rate adjustments occurred in **May 2012**. Currently (as of Sept. 7, 2018), Bluefield Sanitary Board Sewer Rates are **ranked 82 of 319** in the state, or in the bottom 25% of lowest sewer rates. If no other rates increase, this requested adjustment, after 2 years, will move Bluefield's rates up to **185 of 319, or 57% (roughly middle of the state) of lowest rates in the state**. This is inevitably going to change as other utilities are continually increasing rates to keep up with inflation and capital needs.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-20 has a 16-inch diameter gate and check valve. Both the gate and check valves are not properly working.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-10 & 20 has a 16-inch diameter discharge piping that needs replaced due to age and corrosion.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-20 has a 12-inch diameter inlet valve that does not work at all.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-30 has an 18-inch diameter plug and check valve that does not seal shut.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-30 has an 18-inch diameter discharge piping that needs replaced due to age and corrosion.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced

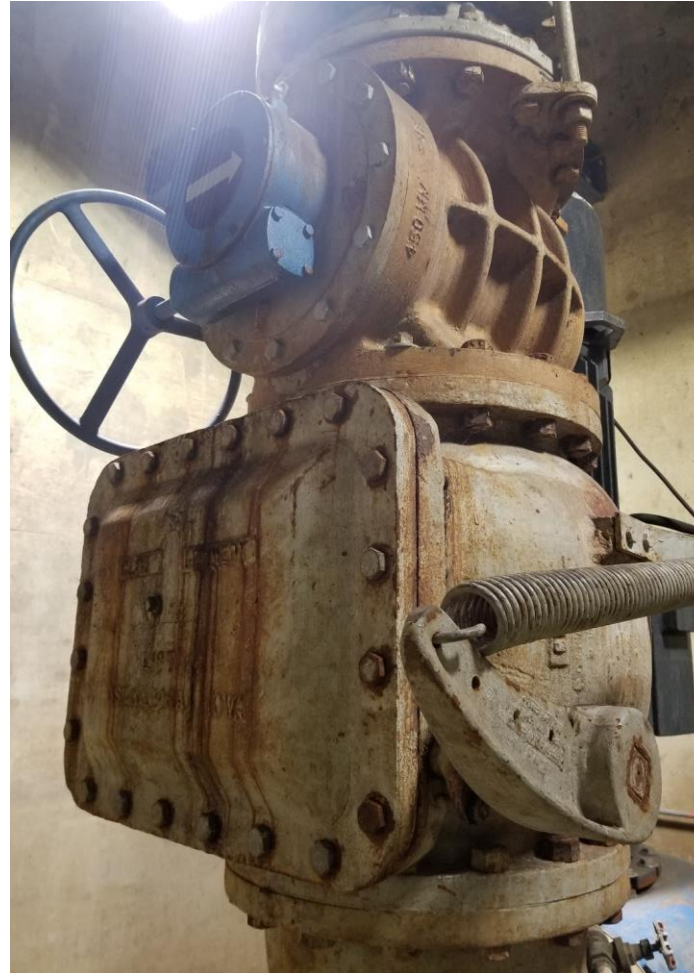


P-30 has an 16-inch diameter inlet plug valve that does not seal shut.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-40 has an 18-inch diameter plug and check valve that does not seal shut.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-40 has an 18-inch diameter discharge piping that needs replaced due to age and corrosion.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



P-40 has an 16-inch diameter inlet plug valve that does not seal shut.



Capital Improvement Project – Westside Plant – Headworks Building

All Main Pumps are over 25 Years Old and Need Replaced



Main Line support brackets need to be replaced before failure.



Capital Improvement Project – Westside Plant – Headworks Building

Main Pump Station Barscreen is over 25 years old



This screen collects all trash before entering main pump. It is beyond repair and is allowing trash to damage pumps causing costly repairs.



Capital Improvement Project – Westside Plant – Grit Removal Building

Grit Removal Equipment is Antiquated



Grit Pumps are in need of replacement due to wear and age. The pump's seals are leaking under constant repair.



Capital Improvement Project – Westside Plant – Grit Removal Building

Grit Removal Equipment is Antiquated



Grit Screw Conveyor is showing signs of corrosion and has been patched numerous times.



Capital Improvement Project – Westside Plant – Grit Removal Building

Grit Removal Equipment is Antiquated

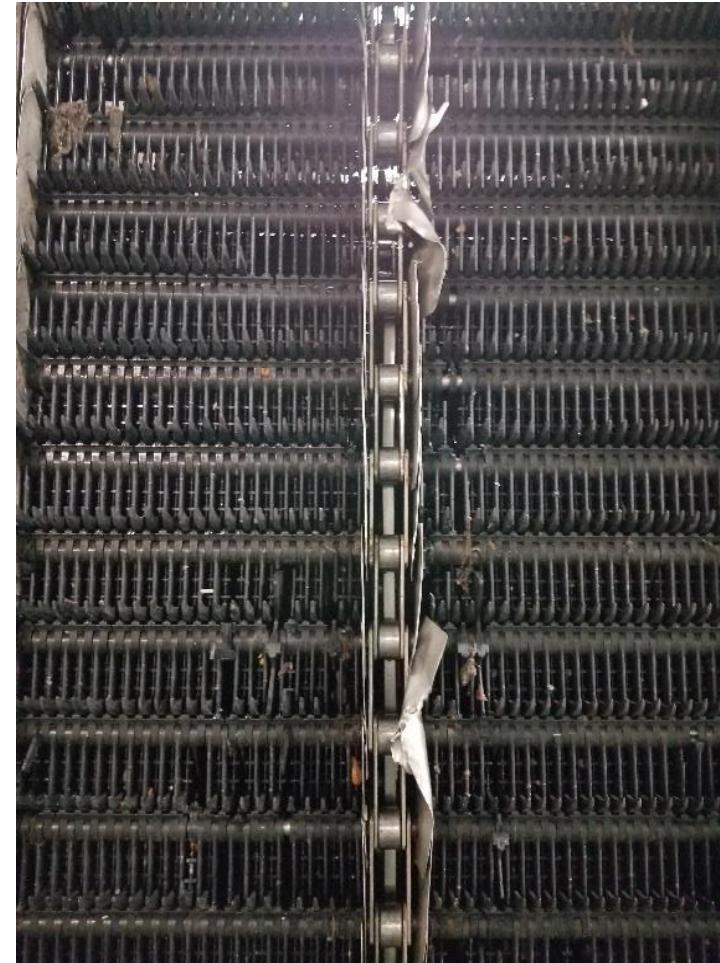
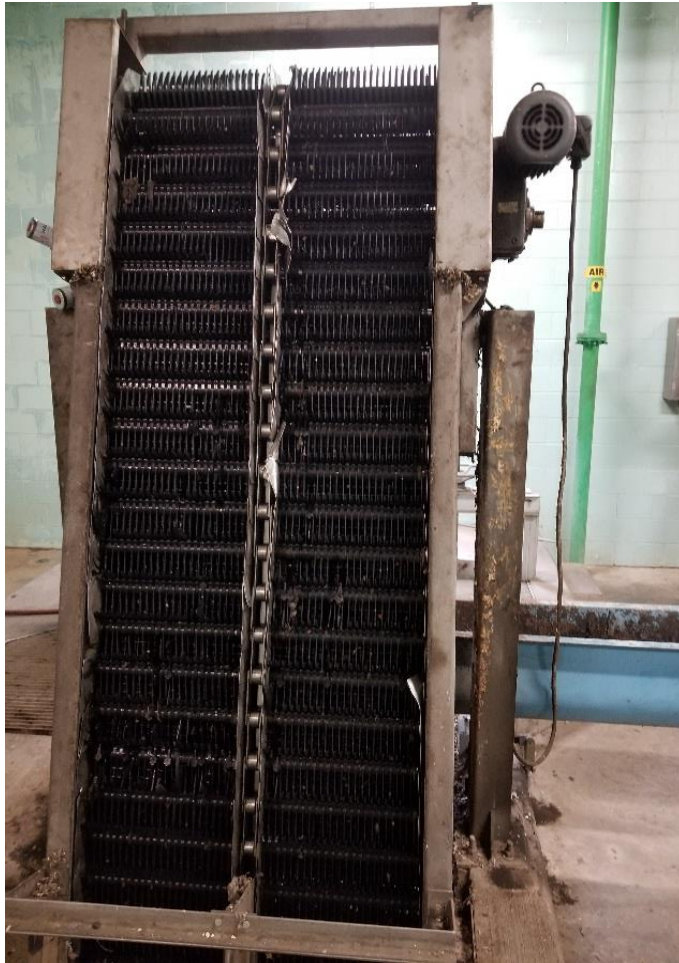


Grit Wash Cyclone Nozzle can no longer be repaired and needs to be replaced.



Capital Improvement Project – Westside Plant – Grit Removal Building

Grit Removal Equipment is Antiquated



Grit Removal Barscreen is missing multiple teeth allowing trash to clog pumps throughout the treatment process.



Capital Improvement Project – Westside Plant – Grit Removal Building

Grit Removal Equipment is Antiquated



Grit Removal Screw Conveyor needs replaced due to wear and continuous amounts of repairs being performed.



Capital Improvement Project – Westside Plant – Grit Removal Building

Grit Removal Equipment is Antiquated



Roof is in need of repairs due to leaks in several different sections of the building.



Capital Improvement Project – Westside Plant – Sand Filter Building

Sand Filter Building and Equipment Replacement



Roof is in need of replacement due to leaks in several different sections of the building.



Capital Improvement Project – Westside Plant – Sand Filter Building

Sand Filter Building and Equipment Replacement

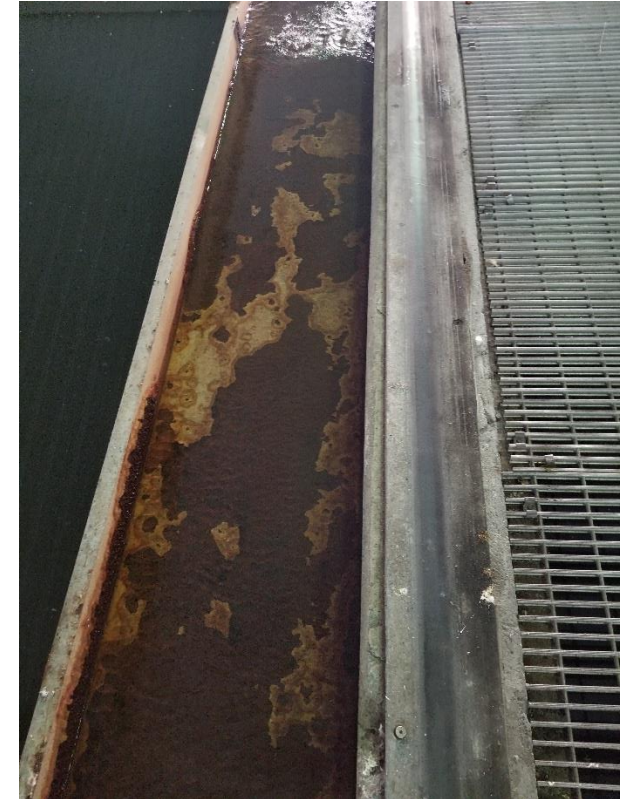
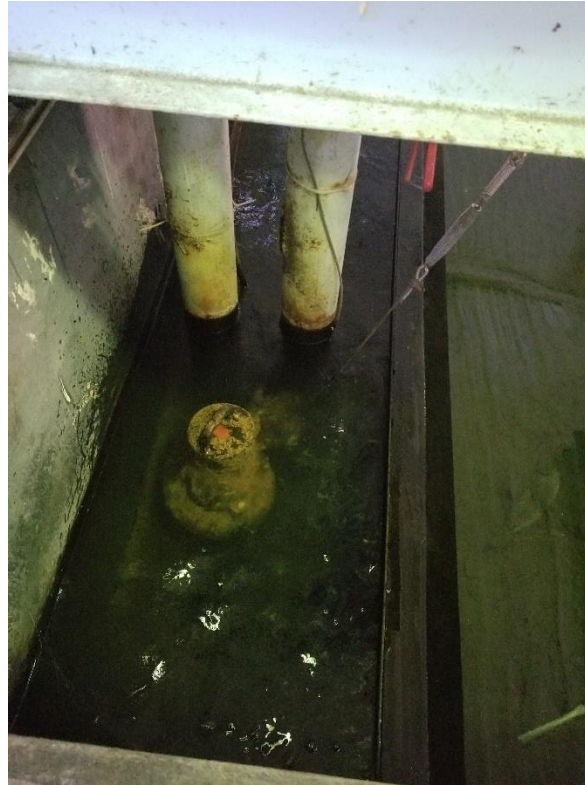


Metal Walls of the building need replaced due to rust and corrosion deterioration.



Capital Improvement Project – Westside Plant – Sand Filter Building

Sand Filter Building and Equipment Replacement



Sand Filter Traveling Bridges are antiquated technology that requires a heavy amount of annual maintenance. Needs replaced with low maint. Disc Filters.

Capital Improvement Project – Westside Plant – Main Operations Building



Main Treatment Building and Equipment Replacement



Major Electrical Work needs to be done throughout the main building. Conduit is rusted through, exposing live wire.



Capital Improvement Project – Westside Plant – Main Operations Building

Main Treatment Building and Equipment Replacement



The walls inside of the Main Operations Building need repair due to rust and corrosion.

Capital Improvement Project – Westside Plant – Main Operations Building



Main Treatment Building and Equipment Replacement



All skylights currently leak and need to be removed. Various locations on the roof leak and need to be repaired as well.



Capital Improvement Project – Westside Plant – Main Operations Building

Main Treatment Building and Equipment Replacement



Three of the Four Heat Pumps do not work. All need to be replaced with energy efficient, natural gas models.



Capital Improvement Project – Westside Plant – Main Operations Building

Main Treatment Building and Equipment Replacement



Three additional sludge processing fan presses need to be added to allow for efficient sludge removal from the plant by reducing processing hours/day.

Capital Improvement Project – Westside Plant – Main Operations Building



Main Treatment Building and Equipment Replacement

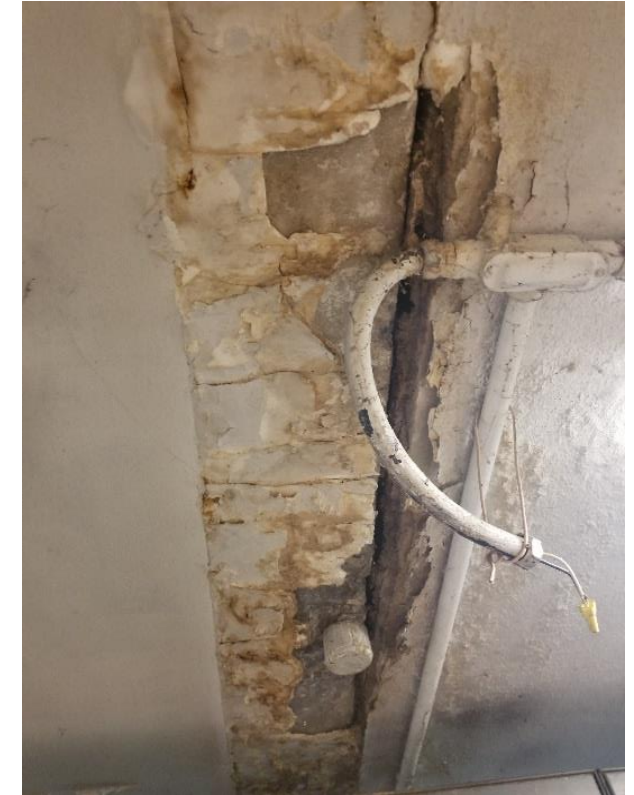


Main Operations Emergency Generator needs replaced. This 1975 model parts are obsolete

Capital Improvement Project – Westside Plant – Bluestone Highflow Detention Facility



Bluestone Highflow Holding Pumping Facility



Roof and Inside Ceiling need to be replaced. Built in 1936 and never replaced.

Capital Improvement Project – Westside Plant – Bluestone Highflow Detention Facility



Bluestone Highflow Holding Pumping Facility

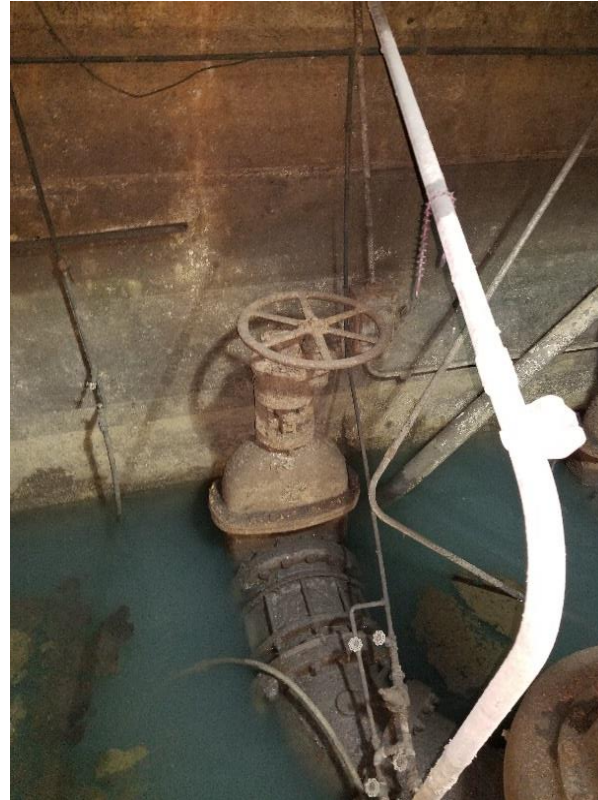


The main pump station building needs replaced due to decay.

Capital Improvement Project – Westside Plant – Bluestone Highflow Detention Facility



Bluestone Highflow Holding Pumping Facility



Pumps, valves, drive, and wiring need updated to keep up with extra flows when it rains.



Capital Improvement Project – College Ave. Main Sewer Replacement

College Ave. Sewer Main During Construction

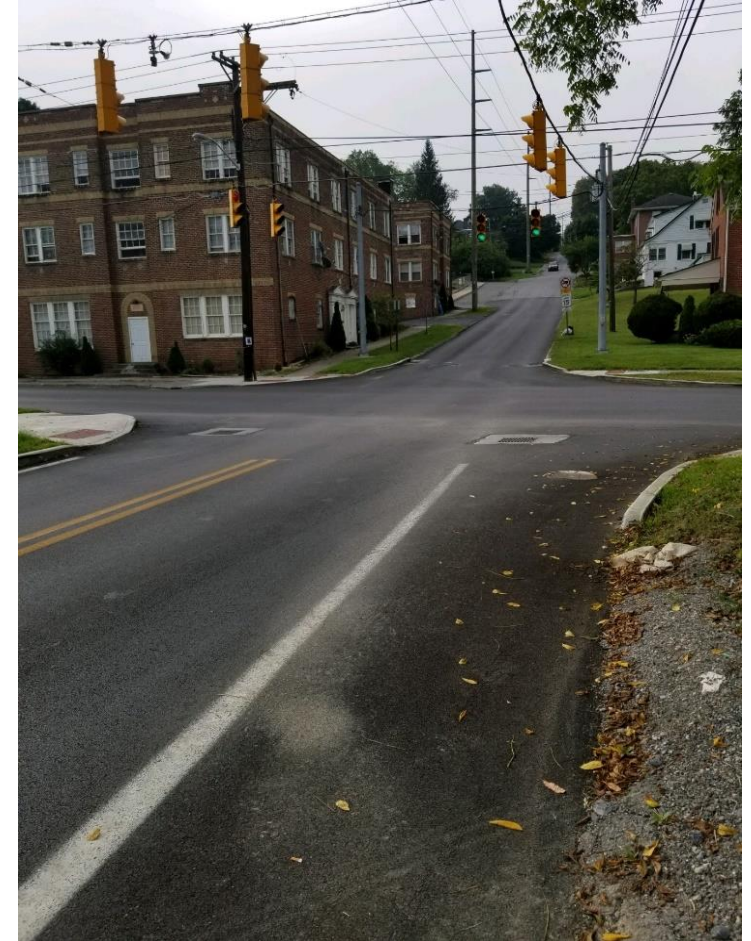


College Ave. Sewer Main was broken in multiple locations around Maryland Ave. and would overflow into the street during rain events.

Capital Improvement Project – College Ave. Main Sewer Replacement



College Ave. Sewer Main new pipe and asphalt



College Ave. Sewer Main was replaced with a larger size pipe and the road was restored with new asphalt and sidewalk corners.



Capital Improvement Project – Deerfield Pumping Station Replacement

Deerfield Pumping Station Before Replacement



Deerfield Pumping Station was at its maximum capacity and no additional customers could be added and there was no backup generator when power fails.

Capital Improvement Project – Deerfield Pumping Station Replacement



Deerfield Pumping Station After Replacement



Deerfield Pumping Station now has emergency backup power and can handle an additional 400 customers.