

Amended Project Profiles

Franklin County

Project Name: Miami Trails Sanitary Sewer and Pump Station Removal Project

Project Number: SX21073009

Project Engineer: Kurt Zehnder, Hazen and Sawyer, P.S.C.

Cost Estimate: \$5,132,000

Funding Committed: \$5,132,000 (KIA SRF Fund A Loan)

Project Description: The Miami Trails Sanitary Sewer project involves the decommissioning and removal of the Miami Trails Pump Station (MTPS), which is an aging pump station at the end of its useful life, within the Indian Hills Neighborhood. The flow from the existing MTPS will be conveyed to the existing Chinook Pump Station (CPS) by approximately 3,400 LF of new 12" gravity sewer. Currently the flow is pumped from MTPS to CPS, causing redundant pumping of flow, energy, and O&M cost. This project will reduce the life cycle costs of conveying the flow currently coming to MTPS. All homes within the new gravity sewer will be connected and new cleanouts will be installed.

Updates to narrative, budget, impacts, mapping.

Jessamine County

Project Name: Wilmore Elevated Storage Tank Rehabilitation

Project Number: WX21113037

Project Engineer: Brad Montgomery, GRW Engineers, Inc.

Cost Estimate: \$994,648

Funding Committed: \$0

Project Description: The project consists of the inspection and rehabilitation of the 500,000 gallon elevated Asbury Tank and inspection and repair of the 500,000 gallon elevated Thomas-Hood Veterans Center Tank for the City of Wilmore, KY. Work is anticipated to include removal/application of interior and exterior coating systems, structural repairs and OSHA complaint upgrades. It is further anticipated that the Asbury Tank will require lead paint abatement.

City is currently moving forward with tank inspections.

Updates to narrative, budget, admin, impacts, mapping.

Project Name: Wilmore Wastewater Collection System Rehabilitation - Phase 2

Project Number: WX21113026

Project Engineer: Brad Montgomery, GRW Engineers, Inc.

Cost Estimate: \$994,648

Funding Committed: \$0

Project Description: This project involves the inspection, and repair or rehabilitation of targeted wastewater collection lines in order to reduce the inflow and infiltration of storm water and ground water (I/I). This project will help the City of Wilmore to remain in compliance with the KY Division of Water's requirements to reduce I/I in wastewater collection systems.

Updates to narrative, budget, admin.

Project Name: Nicholasville 24" Parallel Transmission Main

Project Number: WX21113040

Project Engineer: Joe Henry, GRW Engineers, Inc.

Cost Estimate: \$4,998,150

Funding Committed: \$4,998,150 (KIA SRF Fund F loan)

Project Description: The City is applying for a Construction Loan for FY 2021 for the construction of 22,071 LF of 24" ductile iron transmission main from the water treatment plant to the city. The project will allow increased pumping capacity from the water treatment plant to increase from the current 7 MGD capacity to an ultimate future 15 MGD capacity. The project is part of a 1990 master plan of improvements for the distribution system. Pumping costs, related to energy, will decrease due to the reduction of head loss in the transmission system. Nicholasville currently has three small diameter transmission mains, between the WTP and the distribution system, one of which was installed in the 1950s. The provision of a 24" parallel water main will result in significantly less headloss in the transmission system and result in higher velocity and volume of water delivered.

The Nicholasville 24" parallel transmission main project will assist in the "turnover" of existing water storage tanks. Currently, the water supply is restricted to about 7.5 MGD due to headloss in the existing transmission mains. The project will allow the City of Nicholasville to better comply with the safe drinking water act (Stage II Disinfectants and Disinfection Byproducts rule) by

allowing the stored water to “turn over” better by filling their three distribution storage tanks faster and draining them lower on a routine basis, effectively reducing the stored water time.

Updates to narrative, budget, plans and specs.

Project Name: Wilmore Wastewater Treatment Plant Upgrades

Project Number: SX21113003

Project Engineer: Alan Bryan, GRW Engineers, Inc.

Cost Estimate: \$5,543,300

Funding Committed: \$0

Project Description: This project includes the replacement of aging WWTP infrastructure including: Replacement of oxidation ditch equipment and secondary clarifier equipment. Submersible pumps and check valves within the influent pump station, RAS pump station, and WAS pump stations will be replaced. Valve vault top slabs will be removed and replaced with larger hatches for improved access and safety. The chlorine contact basin will be retrofit for UV disinfection equipment. Three new magnetic flow meters will be installed throughout the process. Automatic spray wash will be added to the existing static screens to prevent obstruction and increase efficiency. The grit removal system will be replaced with new, more efficient equipment. Clarifier distribution box weir gates and WAS wasting valves will also be replaced.

The project also includes replacement of existing interior and exterior lighting with LED, replacement of all electrical systems, replacement of HVAC equipment and louvers, replacement of the plant backup generator, and replacement of power wiring and conduit throughout the plant due to degradation.

Complete profile rehab.

Lincoln County

Project Name: McKinney WD - 2019 Water Improvements Project

Project Number: WX21137017

Project Engineer: Luther Galloway, AGE Engineers

Cost Estimate: \$2,721,253

Funding Committed: \$1,781,551 (KIA SRF Fund F loan, local)

Project Description: THIS PROJECT HAS ABSORBED WX21137052 2019 WATER IMPROVEMENTS PHASE 2

FROM WX21137052

This project will also consider replacing and enlarging at least a portion of this line due to age, water quality and material type. The Main water supply line for the system is an asbestos cement water pipe.

The project is separate from the WX21137051 because McKinney Water and the City of Stanford are two separate Water districts. The only connection between the two is that McKinney is buying water from the City of Stanford.

• Replacing Asbestos line aids in correcting DBP problems by eliminating the biofilm layer built up by the fiber inside the asbestos lines. This biofilm is formed by the undesirable surface properties of the pipe. Biofilms alter water quality and can result in the following:

- I. decrease in chlorine residual
- II. increased bacterial counts resulting from loss of chlorine
- III. reduction in dissolved oxygen content
- IV. taste and odor changes
- V. black water from the activity of sulfate-reducing bacteria
- VI. increased hydraulic roughness - increasing turbulence

The project will improve the water supply, pressure and quality of the water in the McKinney Water System. The District is currently under an Agreed Order by the DOW for disinfection byproduct limits and is currently a wholesale customer of the City of Stanford. As part of the Agreed Order, the District has agreed to improve the water storage to improve water age in the system. The system currently has two 100,000 gal standpipes that are over 50 years old. Only a portion of the water is usable in the tanks due to pressure problems in the system. Several areas in the system are having low pressure problems due to elevation and demand flow. This project will consider the construction of a new water tank. The Main water supply line for the system is an asbestos cement water pipe. The project will consider replacing and enlarging at least a portion of this line due to capacity, age and material type.

The tanks are stand pipes that add to the water age without providing sufficient water storage available above elevation to prevent low water pressure problems. This project is still in the Preliminary stage at this time meaning that there are options that have been introduced that can't be ruled out until the Design Stage is finalized. The following is a list of the options that are being considered:

• Decommission both the Boneyville and McKinney Water Tank and replace with a single 300,000 gallon water tank on top of the McKinney Bluff with a Water mixing system. This option brings on the question of maintenance and keeping the system operational. So the new replacement may require 2 individual 150,000 gallon tanks on top of the McKinney Bluff.

- Rehab the Boneyville Tank with new epoxy coatings, and install mixing equipment in the existing tank and Decommission the McKinney Water Tank and replace with a 200,000 gallon water tank on top of the McKinney Bluff with a water mixing system.

Both options require the installation of new pump stations to serve the McKinney Water System. The above options are both viable to returning McKinney to compliant status however without a final design of the system the best option is still be determined.

Updates merger of two profiles into one for SRF Loan simplicity.

Madison County

Project Name: BMU - Madison County Airport - Sewer Line Extension Project

Project Number: SX21151057

Project Engineer: Joe Watson, American Engineers, Inc.

Cost Estimate: \$620,350

Funding Committed: \$0

Project Description: The Madison County Airport is centrally located to serve Garrard, Lincoln, Madison, Clark, Estill, Jackson and Rockcastle Counties. These counties are underserved in aviation infrastructure which has become increasingly important for Industrial Recruitment and Economic Development. The aerospace industry is the number one export for Kentucky (approximately 37.7% of Kentucky's total exports) and although this airport is a major contributor, improvements in infrastructure will make it an even more valuable partner.

The Appalachian Regional Commission (ARC) through its POWER (Partnerships for Opportunity and Workforce and Economic Revitalization) Initiative has announced an investment of \$1,463,927 in Eastern Kentucky University's "Kentucky's Appalachia Aviation Maintenance Technician Training" project. Each college and university program location was strategically chosen for its proximity to a partnering regional airport. Once trainees fulfill basic coursework requirements inside the traditional classroom setting, the training will move to the regional airports for hands-on work training. The 18-month program, slated to begin training students in January 2020, will be partially taught in traditional classrooms on the partnering college campuses: Hazard Community & Technical College; Big Sandy Community and Technical College; ECU Manchester; ECU Corbin; and ECU Richmond. Upper-level training classes will take place at partnering regional airports: Wendell H. Ford Regional Airport, Hazard; Big Sandy Regional Airport; London-Corbin Airport; and Central Kentucky Regional Airport, Richmond.

Currently, the Madison County Airport lacks the necessary infrastructure to adequately meet future transportation needs. Compounding the issue, the Airport just received a grant to stand up an aviation mechanic school. The increase in people utilizing the airport daily will strain the existing infrastructure and in particular, the outdated septic system used for sewer treatment. As the activity at the airport increases, options for wastewater treatment include installation of its own private treatment plant on the airport property or installation of a new force main to serve the airport. A new force main is the preferred alternative from financial and O&M perspectives.

This project will result in the construction of approximately 12,000 LF of 4" sewer lines and approximately two new manholes.

Updates to budget.

Project Name: Boone Village Wastewater Collection System

Project Number: SX21151022

Project Engineer: Paul Nesbitt, Nesbitt Engineering, Inc.

Cost Estimate: \$960,000

Funding Committed: \$32,000 (Local)

Project Description: Installation of approximately 7,704 LF of gravity sewers, thirty-nine manholes, one submersible pump stations and approximately 4,700 LF of 4' diameter force main to collect and transport the wastewater from 70 residences and 1 commercial establishment to the existing NMCS system. This flow will ultimately be treated at the District's Regional WWTP.

Currently, this subdivision has only on site (septic tanks) treatment and during the summer sewerage has been reported to run on top of the ground and in ditch lines. This sewerage and odor is quite a nuisance and health hazard for the residents and their children that live in this area.

Updates to budget.

Woodford County

Project Name: Versailles - Water Treatment Plant Improvements – Generators

Project Number: WX21239035

Project Engineer: None yet

Cost Estimate: \$3,408,000

Funding Committed: \$0

Project Description: The City of Versailles is in need of increasing the reliability of their water treatment plant power supply by acquiring and installing generators. The major components of the project include a new 2,500 kW generator and transfer switch at the raw water pump station and a new 1,250 kW generator and transfer switch at the water treatment plant main facilities. The project will also include concrete work, conduit & wiring and fuel tanks. The installation of these generators impacts all of the Versailles Water Treatment Plant customers (both direct and wholesale customers) as without these generators, in times of emergency and extreme stress, potable water may not be available if the water treatment plant experiences a power failure. The Versailles WTP directly services over 14,000 customers and indirectly services over 6,000 customers. Without a reliable emergency power supply, these customers may be without potable water during a power failure.

Changes made to project budget and schedule.

Project Name: Versailles - WWTP Improvements - Belt Filter Press Replacement

Project Number: SX21239014

Project Engineer: None yet

Cost Estimate: \$1,055,000

Funding Committed: \$0

Project Description: Replacement of the City's existing Belt Filter Press equipment. This would include replacement of the combination gravity belt thickener/belt filter press unit, polymer feed systems, sludge pumps, piping, electrical conduit and electrical controls.

The sludge press is a mechanical unit that has been in operation for approximately 10 years. Due to almost constant use, the equipment has deteriorated, resulting in longer operating times and sludge cake quality much less than optimal. The increased water content of the sludge cake causes the hauling fees for landfilling to be higher than in the past.

Changes made to project budget and schedule.

Project Name: Versailles - Southeast Sewer System Expansion

Project Number: SX21239006

Project Engineer: None yet

Cost Estimate: \$4,500,000

Funding Committed: \$0

Project Description: Extend sewer service across the bg parkway to serve the Sycamore estates, Gaybourn and hidden springs. This project will consist of approximately 59,600 feet of 8" gravity sewer, 250 manholes, 6,300 feet of 4" force main, 13,100 feet of 8" force main, and four new pump stations.

Changes made to project budget.

Project Name: Versailles - Water Distribution System Improvements Phase 2

Project Number: WX21239033

Project Engineer: Michael Jacobs, GRW Engineers, Inc.

Cost Estimate: \$1,520,000

Funding Committed: \$0

Project Description: The City of Versailles is trying to strengthen their water distribution system, especially on the northwest side of the City. The proposed project includes approximately 5,300 LF of 12" water main to be installed from Kentucky Avenue to the Versailles Bypass (US 60) along Camden Avenue and Frankfort Street. Many water mains in this area of the city are dead ends, thus resulting in poor water turnover. In addition to the installation of the 12" water main, the project will include creating connections to the dead end water mains, thus creating additional loops within the Versailles Water Distribution System. The installation of the 12" water main and creation of loops will also increase the reliability of the water distribution system in times of extreme stress and emergency. These improvements will provide access to more reliable flow and properly sustain residual pressures within the area.

Changes made to project budget.

Project Name: Versailles - Automatic Meter Reading (AMR) System

Project Number: WX21239030

Project Engineer: None yet

Cost Estimate: \$4,500,000

Funding Committed: \$0

Project Description: The City of Versailles intends to increase the efficiency and reliability of their water billing process by implementing a Automatic Meter Reading (AMR) system with two (2) mobile reading units. The system will include new meters with transmitters to provide data from the meters, along with the receiving units. The computer software and interface package is also part of the system. The proposed improvements will save the City of Versailles time and costs (labor, billing errors, etc.). Additionally, the new water meters meet the new low lead initiatives that have been implemented by NSF & Congress. Presently, the existing meters abide by the low lead initiatives, however, the new meters are designed with all wetted components to have less than the lead content of the existing meters thus promoting the health and safety of the public.

Changes made to project budget and schedule.

Project Name: Versailles - Water Distribution System Improvements - Low Pressure Correction

Project Number: WX21239034

Project Engineer: None yet

Cost Estimate: \$1,342,000

Funding Committed: \$0

Project Description: The City of Versailles is in need of strengthening their water distribution system, especially on the northern portion of the City. The proposed project includes approximately 6,875 LF of 8" water main to be installed along the Versailles Bypass (U.S. 60) from Lexington Street to the High School. Many water mains in this area of the city are dead ends, as a result of the Versailles Bypass being the natural boundary of the high & low pressure zones. Thus, these dead end water mains result in poor water turnover requiring City staff to perform regular flushing. In addition to the installation of the 8" water main, approximately 900 LF of 6" water main is to be installed as well. The new proposed water mains will include creating connections to the existing dead end water mains, thus, creating additional loops within the Versailles Water Distribution System. The installation of the 8" and 6" water mains and creation of loops will increase the reliability of the water distribution system in times of extreme stress & emergency. These improvements will provide access to more reliable flow and properly sustain residual pressures within the area and enhance the service to at a minimum 125 underserved households.

Changes made to project budget and schedule.

October 16, 2020 New Project Profiles – Last updated 10.29.2020

Estill County

Project Name: ECWD - Phase 12 System Improvements

Number: WX21065010

Project Engineer: Alan Bowman, Banks Engineering

Cost Estimate: \$2,000,000

Funding Committed: \$0

Project Description: This project represents a continuation of ECWD No. 1 efforts to reduce unaccounted for water in the system. The project will involve the replacement of approximately 5,000LF of 6-inch and 4-inch water line in the lower Sand Hill area along with the replacement of approximately 1,600LF of polyservice line. In addition, the project will include the addition of approximately 3 sub-zone meters as well as the rehabilitation of the Sand Hill tank, the Winston Tank, Ivory Hill Pump Station, Sandhill Pump Station and Pea Ridge Pump Station.

Franklin County

Project Name: FSD - Mero Flood Pump Station Renewal & Mero Sanitary Pump Station

Project Number: SX21073085

Project Engineer: None yet

Cost Estimate: \$25,000,000

Funding Committed: \$0

Project Description: The project will relocate the existing sanitary Mero Pump Station from outside the floodwall to inside the floodwall to reduce the frequency and volume of CSO's. This project will require re-design of connections with the permitted CSO discharge and Flood Pump Station. The Flood Pump Station, (approximately 70 years old) will be renewed to reduce the risk of flooding and account for increased runoff within the watershed.

Garrard County

Project Name: GCSD - Phase II - Paint Lick Sewer Project

Project Number: SX21079020

Project Engineer: Matt Jolly, Summit Engineering

Cost Estimate: \$716,412

Funding Committed: \$0

Project Description: This project will expand the new Paint Lick sewer system to serve additional customers. It will add 40 new grinder pump units, force mains, a new septic tank, and a new community drainfield.