

WINSTON-SALEM COLLECTION SYSTEM IMPROVEMENTS



CLIENT City of Winston-Salem	LOCATION Winston-Salem, NC	DURATION 5 years	ROLE Utility Management Consulting
	BUDGET \$450,000 annually	COMPLETED Est. December 2021	



Blue Cypress began working with Winston-Salem/Forsyth County Utilities (WSFC Utilities), as a member of the program management team in 2015, when they were contracted to provide an assessment of collections systems operations. To accomplish this, the team prepared a data request and performed a brief review of the data provided by WSFC Utilities. A rapid on-site assessment consisting of staff interviews was also conducted. Upon review of the findings from the initial assessment, WSFC Utilities asked the team to provide Program Management services starting in 2016 in support of collection system improvements including:

- General project/program management services
- A strategic assessment and plan development
- An assessment of operations and development of a roadmap for optimal optimization
- Development of a condition assessment and renewal strategy
- Development of a capacity assurance program
- SSO response improvements

In 2017 and 2018, the Program Management services expanded to implement the previously developed Operational Optimization Roadmap, as well as perform various staff augmentation services. This involved optimizing the operation of the collection system, as well as beginning to implement a longer-term condition assessment program and a capacity assurance approach to ensure that potential projects identified in the master plan were necessary in the time-frame predicted.

Blue Cypress served as the task lead for over twenty initiatives in this program and was strategic advisor on the initiative on capacity assessment / design criteria and KPI enhancements.

For the Capacity Assurance program, Blue Cypress provided strategic advisory services to design the policies, processes, procedures, information management, and tracking systems. Instead of using the model to identify projects that would then be entered into the CIP, the process features three key steps to mitigate the risk of such an approach. First, the process begins with utilizing two data sources: historical wet weather SSOs, and the results of the calibrated, hydraulic model. These are used to identify “potential capacity constraints.” Second, each potential capacity constraint is then field verified by capturing additional flow monitoring, and/or level sensing, and rain gauge data during a wet weather event. Third, once the capacity constraints are verified as being real, a remedial measures alternatives analysis process occurs which considers the cost/benefit of various remedial measures techniques including inflow reduction, infiltration reduction, convey and treat, storage convey and treat, inter-basin transfer, etc.

This process has led to canceling a \$2.2m project, \$20.6m of projects that were thought to be needed in the near-term but were verified to be able to be deferred, and verifying a \$9.8m project that was needed in the near-term.

Blue Cypress provided strategic advisory services in the development of key performance indicators (KPIs) to understand historical trends in order to make informed strategic and tactical systems to continue to evolve the program to successfully meet its goals.