R080317b

A RESOLUTION OF THE NEWTON COUNTY BOARD OF COMMISSIONERS AUTHORIZING APPLICATION FOR FUNDING UNDER THE DRINKING WATER STATE REVOLVING FUND TO FINANCE CERTAIN WATER RESERVOIR AND TREATMENT PLANT IMPROVEMENTS

WHEREAS, the Newton County Board of Commissioners and the Newton County Water Resources Department commissioned Carter & Sloope, Inc. ("C&S") to prepare an engineering assessment of the County's water resources infrastructure to identify deficiencies and develop solutions; and

WHEREAS, C&S has prepared a detailed report identifying certain urgent deficiencies in the County's water treatment infrastructure, which report is attached hereto as Exhibit "A"; and

WHEREAS, the Georgia Environmental Finance Authority ("GEFA") administers a loan program known as the Drinking Water State Revolving Fund ("DWSRF"), a federally-funded loan program for drinking water infrastructure projects; and

WHEREAS, after consulting with C&S and GEFA, and considering its options for financing the necessary drinking water infrastructure improvements, the Newton County Board of Commissioners believes that the DWSRF program represents the most promising source of financing;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF NEWTON COUNTY, GEORGIA AS FOLLOWS:

(1) C&S is hereby authorized and directed to begin preparation of a loan application and supporting documents for the DRSWF funding program.

(2) C&S and the Newton County Water Resources Department are hereby authorized and directed to prepare a list of projects recommended to be included in the DRSWF funding application and to present this list of projects for approval at the next Board of Commissioners meeting.

(3) The Chairman of the Board of Commissioners is hereby authorized to execute and file such applications, assurances and other documents on behalf of Newton County as are necessary to complete the loan application procedure.

(4) Approval of the Board of Commissioners shall be necessary before any loan funds are accepted.

[SIGNATURES ON FOLLOWING PAGE]

SO RESOLVED this 3rd day of August, 2017.

NEWTON COUNTY BOARD OF COMMISSIONERS

Marcello Banes, Chairman

Attest:

Jackie Smith, County Clerk

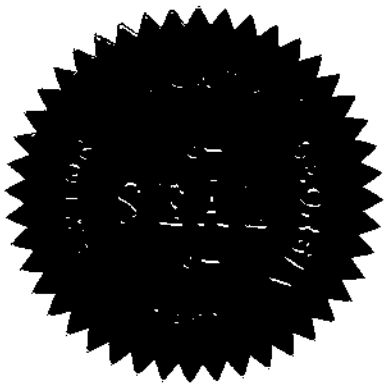
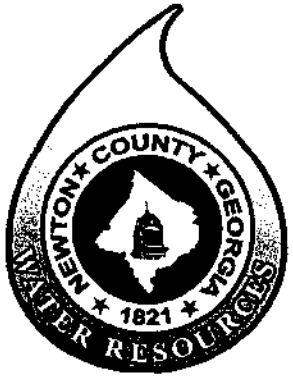


Exhibit A



Cornish Creek & Williams Street Water Treatment Plant Assessment

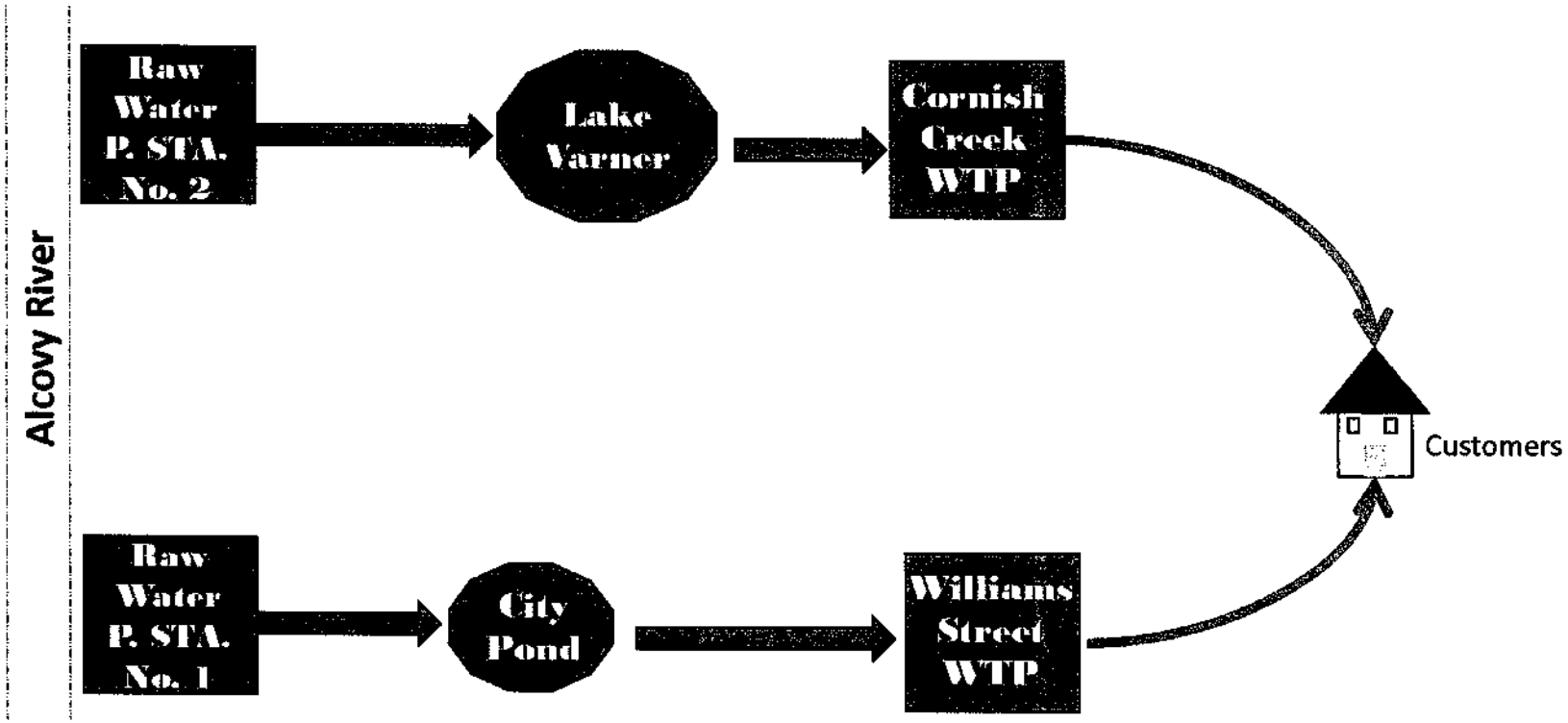
August 3, 2017

Purpose & Need of Assessment

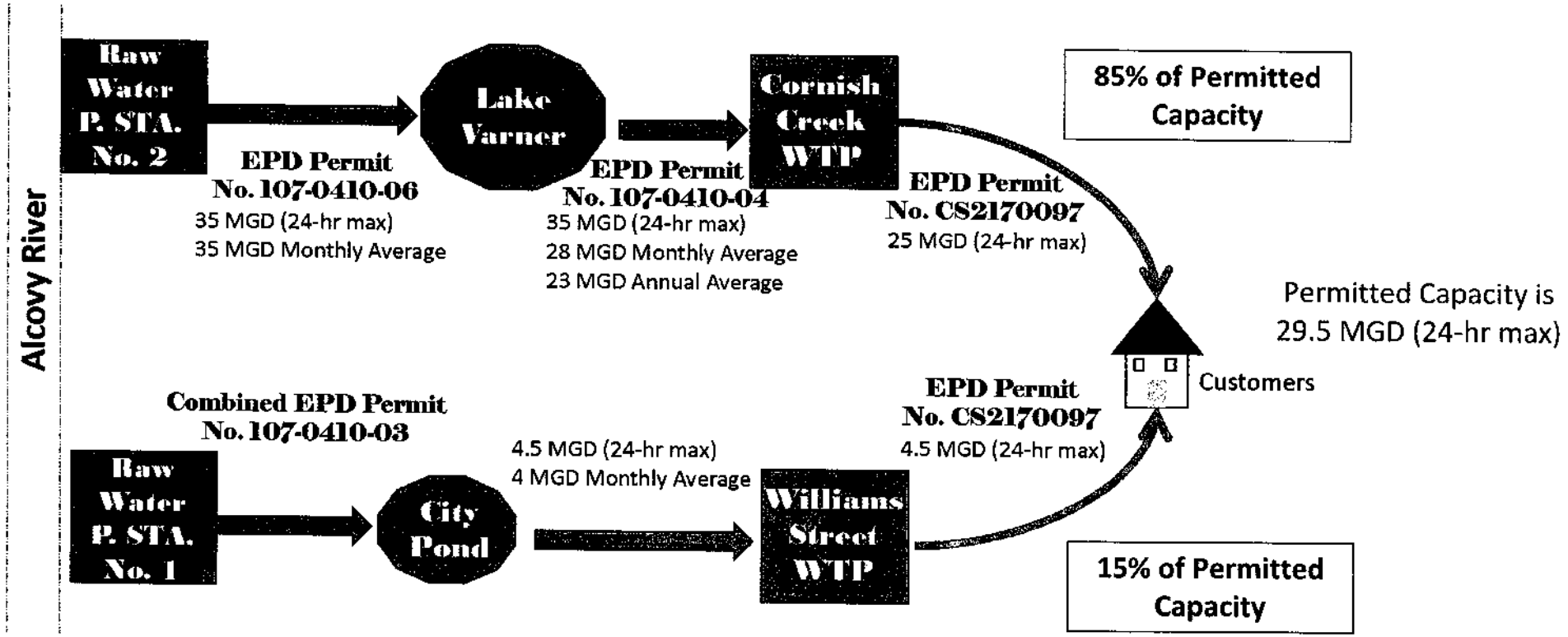
- Engineering assessment of water resources infrastructure at Williams Street Water Treatment Plant and Cornish Creek Water Treatment Plant

- Focus of assessment: Identify deficiencies and develop alternatives to correcting these deficiencies so that each facility can treat and deliver its permitted capacity

Water Resources Schematic



Overview of Surface Water Withdrawal & Treatment Permits



Project Priorities

- Given the size and scope of the needed improvements, it is recommended to break the projects up into manageable pieces to match the available funding

- The most important projects to complete are the ones that affect operator and public safety as well as the ability for Cornish Creek WTP to reliably produce its permitted capacity since over ± 85% of the total water is produced at this facility

Cornish Creek WTP Deficiencies & Priorities

1. Need gravity thickener and mechanical dewatering
   - Sludge lagoons are ineffective and impractical for a WTP of this size.
2. Make improvements to Lake Varner by constructing a floating dock pump station to increase the amount of water that can be withdrawn to 35 MGD
   - Existing 20" intake screens and 24" diameter raw water line are a hydraulic bottleneck incapable of reliably and consistently passing 25 MGD.
   - Fixed position of the screens causes water quality problems.
3. Install a new 30-inch high-service main parallel to the existing 24" high-service main
   - Existing 24" high service main is a hydraulic bottleneck preventing operators from pumping more than ± 18 MGD into distribution system.
4. Install a new 3 mega-Watt backup power generator to power the entire plant during extended power outages
   - Only 3 high service pumps out of 10 are connected to backup generators, which means plant is limited to pumping only ± 7.5 MGD capacity during power outages. Number of pumps should be reduced and consolidated with VFD pumps allowing greater flexibility and they should be connected to backup power.

Cornish Creek WTP Deficiencies & Priorities

5. Construct a new 3 million gallon clearwell
   - Currently have 2.14 million gallons of clearwell storage that meets regulatory requirements, but not enough volume for operational flexibility. Also, not enough for 35 MGD future flow.
6. Make improvements to the Alcovy River Raw Water Pump Station by replacing the existing 4 MGD pump with a new 12 MGD pump complete with a variable frequency drive. Also make minor improvements to mechanical bar screen and SCADA
   - Current pump station capacity is less than permitted flow of 35 MGD.
7. Construct a tank farm, replace chemical feed systems, and complete other minor improvements to plant building
   - Pilot test chlorine dioxide and ozone to replace dangerous carbon feed system.
   - Replace 1-ton chlorine cylinders with bulk liquid sodium hypochlorite system.
   - Move fluoride and alum to a new bulk storage tank farm because existing tanks are too small.
8. Replace (phasing out) of old high service pumps with new, larger high service pumps equipped with VFD's

Summary of Total Project Costs: Cornish Creek Water Treatment Plant System

Cornish Creek WTP System Component	Cost
Alcovy River Pump Station No. 2 Improvements	$605,000
Lake Varner Intake Improvements	$947,500
Cornish Creek WTP Improvements	$14,591,750
Total Estimated Project Costs	**$16,144,250**

Williams St. WTP Deficiencies & Priorities

1. Make the necessary structural repairs at Williams St. WTP
   - Structural failure – isolated concrete deterioration and exposed rebar at the chemical feed room needs repair. This is a danger to operations.
2. Remove the 1-ton chlorine cylinders at Williams St. WTP and switch to bulk liquid sodium hypochlorite
   - Public safety risk – 1-ton chlorine gas cylinders are stored outside in the heart of downtown Covington with no chlorine scrubbing system. Should switch to bulk liquid sodium hypochlorite. Extremely dangerous to operators and the public.
3. Rehabilitate the Alcovy River Raw Water Pump Station, which needs to be completely gutted and rehabbed with:
   - All new electrical equipment and wiring
   - All new raw water pumps
   - All new piping and valves
4. Rehabilitate the concrete intake structure at City Pond and the City Pond Pump Station. Concrete intake structure and intake gates need to be repaired. Pump station needs to be gutted and rehabbed with:
   - Minor brick repair
   - New roof, door, and windows
   - All new electrical equipment and wiring
   - All new raw water pumps
   - All new piping and valves
   - All new ventilation & heating system

Williams St. WTP Deficiencies & Priorities

5. Rehabilitate Williams St. WTP. Most of the mechanical and process components need to be replaced, including (but not limited to):
   - New flash mix
   - New over and under baffles in the flocculation basins
   - New weirs and mud valves in the sedimentation basins
   - New filter and underdrains and controls
   - New washwater troughs and filter media
   - New surface sweeps or replace with air scour
   - New filter control valves
   - New high service pumps
   - Add new chemical feed system
   - Complete electrical replacement including conduit and wiring

6. Perform a bathymetric survey of City Pond and collect samples of the silt to determine the location and presence of lead shot, if any

Low-Priority Projects Are Below

7. Dredge City Pond, if bathymetric survey indicates it is needed
8. When needed, replace these 16-inch asbestos concrete raw water mains between the Alcovy River Pump Station No. 1 and City Pond and City Pond and Williams St. WTP

Summary of Total Project Costs: Williams St. Water Treatment Plant System

Williams St. WTP System Component	Cost
Alcovy River Pump Station No. 1 Improvements	$937,000
City Pond Improvements	$1,155,900
Williams St. WTP Improvements	$5,237,100
Total Estimated Project Costs ***(excluding dredging and replacing raw water mains)***	**$7,340,000**

Notes:

1. Since it is not necessary to replace the 16-inch raw water mains between the Alcovy River Pump Station No. 1 and City Pond, and City Pond to Williams St. WTP at this time, this work can be phased into a future project when it is needed and is excluded from budgets above.
2. Costs for dredging City Pond are excluded from these budget estimates.

Funding Options for Improvement Priorities

GEFA has funding available under the Drinking Water State Revolving Fund for 2017

- Federal loan with Federal requirements: SERP, Davis-Bacon wages, AIS, etc.
- Current interest rate is 1.89%.
- A 1% interest rate reduction is applied for water conservation projects.
- Most of the proposed projects would probably qualify for water and/or energy conservation projects.
- **When applied, the interest rate will be 0.89%. A blended interest rate between 0.89% and 1.89% will be applied for project components that do not qualify as "conservation".**
- 20-year term
- $25,000,000 maximum loan amount per year

GEFA's Water Conservation Project Criteria

Potential energy production and conservation projects can include the following:

- SCADA improvements
- Energy-efficient retrofits, upgrades, or new pumping systems and treatment processes such as variable frequency drives (VFDs) that result in substantial energy savings
- Motor and Pump Replacement with energy efficient equipment
- Energy Management Planning
- Lighting Upgrades
- Line rehabilitation and replacement
- Leak detection and repair

Project Timeline

- Submit GEFA Application Part 1 & 2 – August 2017
- Begin State Environmental Review Process- August 2017
- EPD issue CE Determination or NONSI- October /November 2017
- EPD issue Planning Document Approval- November 2017
- GEFA Board Meeting- November 2017
- GEFA & BOC Loan Execution- December 2017
- Bidding - 1st Quarter 2018
- Notice to Proceed - 1st Quarter 2018

State Environmental Review Process (SERP)

- Preliminary Engineering Report is submitted to the EPD. EPD will make an initial determination of the eligibility for a Categorical Exclusion (CE).
- Project information, known as cross-cutter letters, is submitted to the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the State Historic Preservation Division for review and/or comment.
- EPD will issue a CE Determination for the project, if appropriate.
- The CE Determination Notice of Eligibility is published in a local newspaper of community-wide circulation for 30 days.
- EPD allows a thirty (30) day comment period, which begins when the notice is published in the local newspaper and when the notice is placed on the EPD's web site.
- At the end of the thirty (30) day comment period, if no adverse comments are received, EPD will issue final Planning Document Approval for the project.