

The background is a light blue gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The main title is centered in the upper half of the page.

WATER & SEWER IMPROVEMENTS

PROJECT DESCRIPTION, COST ESTIMATE
AND TIME FRAME, AND BENEFITS

OVERVIEW OF WATER PROJECTS

Water Plant
Upgrade

Edge Road
Water Line
Extension

Highway 61
Water Line
Extension

North Avenue
Water Line
Extension

1. WATER PLANT UPGRADE

DESCRIPTION

- Add a sludge pond, a second basin and a second filter

COST ESTIMATE AND TIME FRAME

- \$3.5 million GEFA loan
- Design in 2018-19 (Carter & Sloope) and complete in 2020

BENEFITS

- Provides redundant production capability
- Reduces our reliance on Carroll County Water Authority
- Makes us compliant on sludge handling
- Updates aging plant infrastructure

2. EDGE ROAD WATER LINE EXTENSION

DESCRIPTION

- Construct about 5,000 feet of 12-inch water line along Edge Road to replace inadequate smaller line

COST ESTIMATE AND TIME FRAME

- \$1.0 million GEFA loan
- Design in 2018 (Smart Water Analytics) and complete in 2019

BENEFITS

- Improves water volume in Liberty Road/Poole Road area
- Fills in a portion of a city-wide system of 10-inch or 12-inch water lines

3. HWY 61 WATER LINE EXTENSION

DESCRIPTION

- Relocate 10-inch water line at Hwy 61 & Punkintown Road
- Construct new 10-inch water line along Highway 61 from new library to Old Town Road

COST ESTIMATE AND TIME FRAME

- \$100,000 for line relocation – pay as you go
- \$185,000 for line extension – pay as you go
- Design in 2018 (Carter & Sloope) and complete in 2019

BENEFITS

- Allows for construction of mini-roundabout by GDOT
- Fills in a portion of a city-wide system of 10-inch or 12-inch water lines

4. NORTH AVENUE WATER LINE EXTENSION

DESCRIPTION

- Bore and install new 10-inch water line under Highway 78/Railroad
- Construct new 10-inch water line from Olive Tree Restaurant along Church Street and North Avenue to Highway 61
- Follow up with installation of new copper service lines

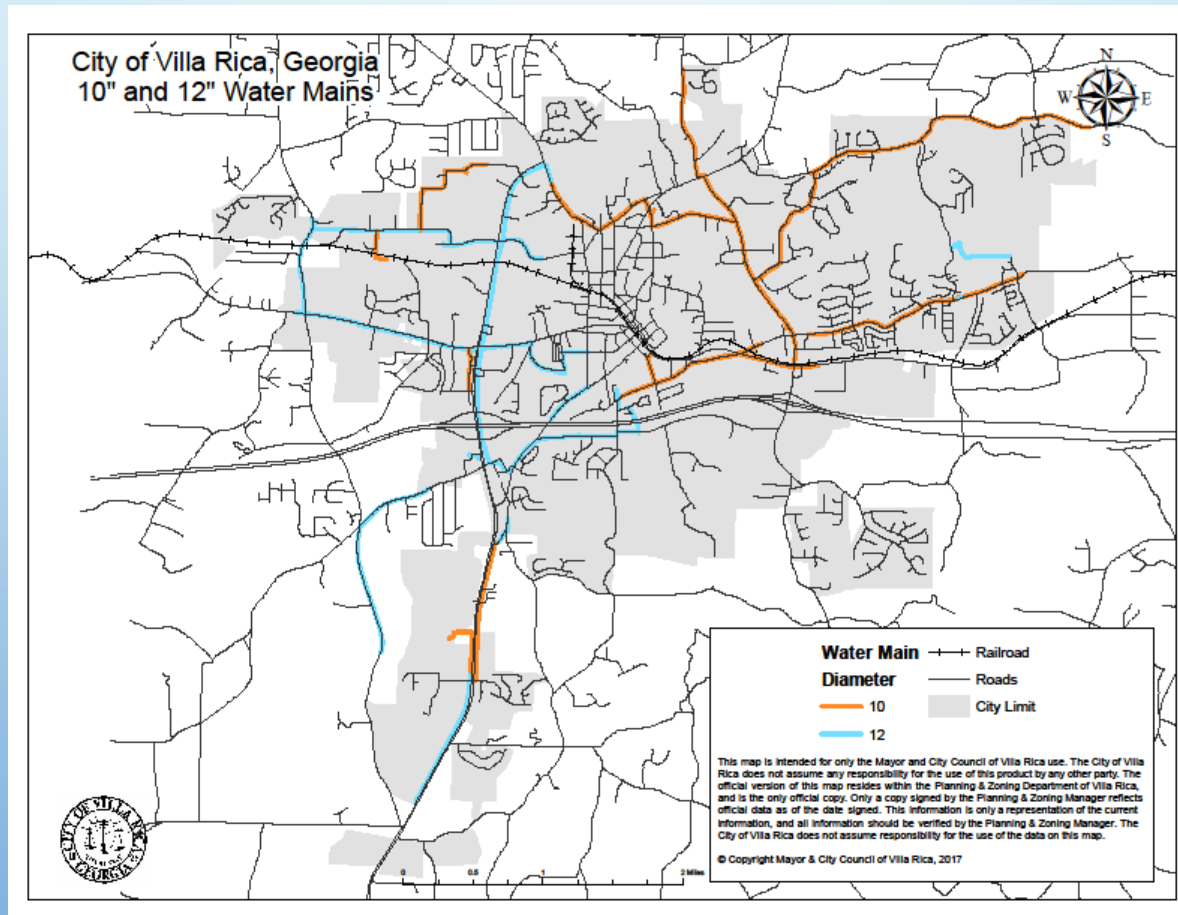
COST ESTIMATE AND TIME FRAME

- \$4.0 million GEFA loan
- Apply for permit to bore in 2018 and design in 2019 (Carter & Sloope)
- Complete in 2020

BENEFITS

- Provides trunk line in section of downtown with poorest water volume
- Allows for replacement of old galvanized service connections that consistently spring leaks
- Allows relocation of water meters from Main Street to Church Street
- Fills in a large portion of a city-wide system of 10-inch or 12-inch water lines
- Eliminates leak-prone galvanized service lines

10-INCH & 12-INCH WATER LINES



OVERVIEW OF **SEWER** PROJECTS

Lift Station
Review and
Maintenance

Infiltration and
Inflow (I&I)
Identification and
Repair

North Plant
Upgrade and
East/West
Redirection

I-20 Crossing
Quick Fix

5. LIFT STATION REVIEW AND MAINTENANCE

DESCRIPTION

- Review all 31 sewer pump stations and force mains for total capacity, available capacity, condition of pumps, controls, etc.
- Make quick repairs as needed
- Identify opportunities to consolidate lift stations

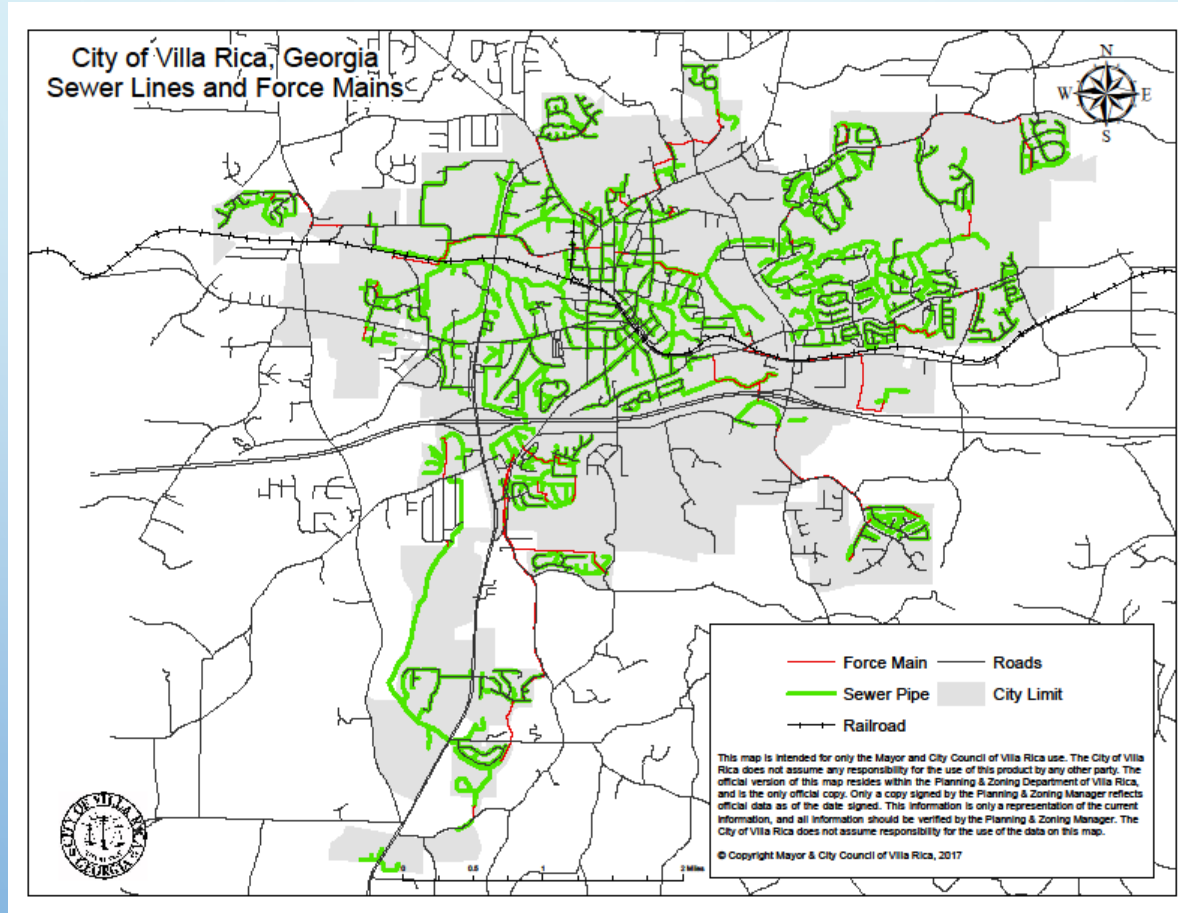
COST ESTIMATE AND TIME FRAME

- \$1.0 million – pay as you go
- Review in 2018 (Brennan Jones) and repair in 2019

BENEFITS

- Reduces likelihood of future pump failure
- Identifies capacity issues to be caused by proposed new development
- Reduces future operating costs

SEWER LINES AND FORCE MAINS



6. INFILTRATION & INFLOW IDENTIFICATION AND REPAIR

DESCRIPTION

- Locate sources of rainwater infiltration entering into our sanitary sewer system
- Make repairs as needed

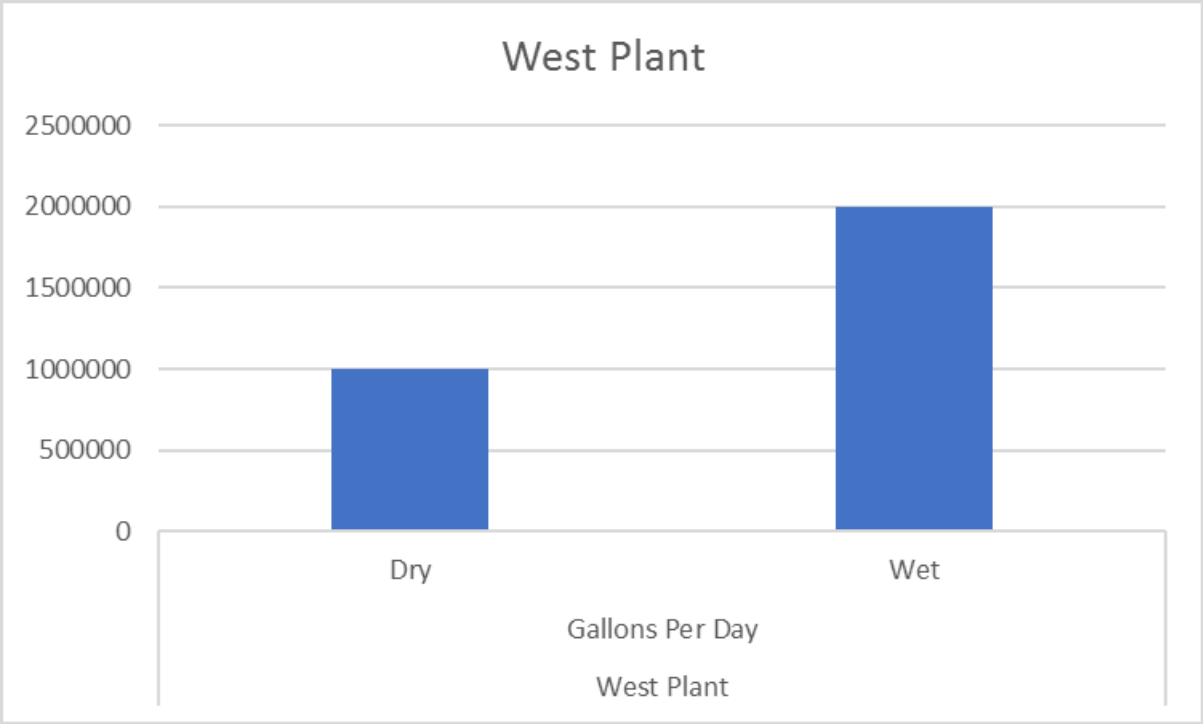
COST ESTIMATE AND TIME FRAME

- \$1.0 million GEFA loan
- Identify in 2018-19 (Integrated Science & Engineering) and repair in 2019-20

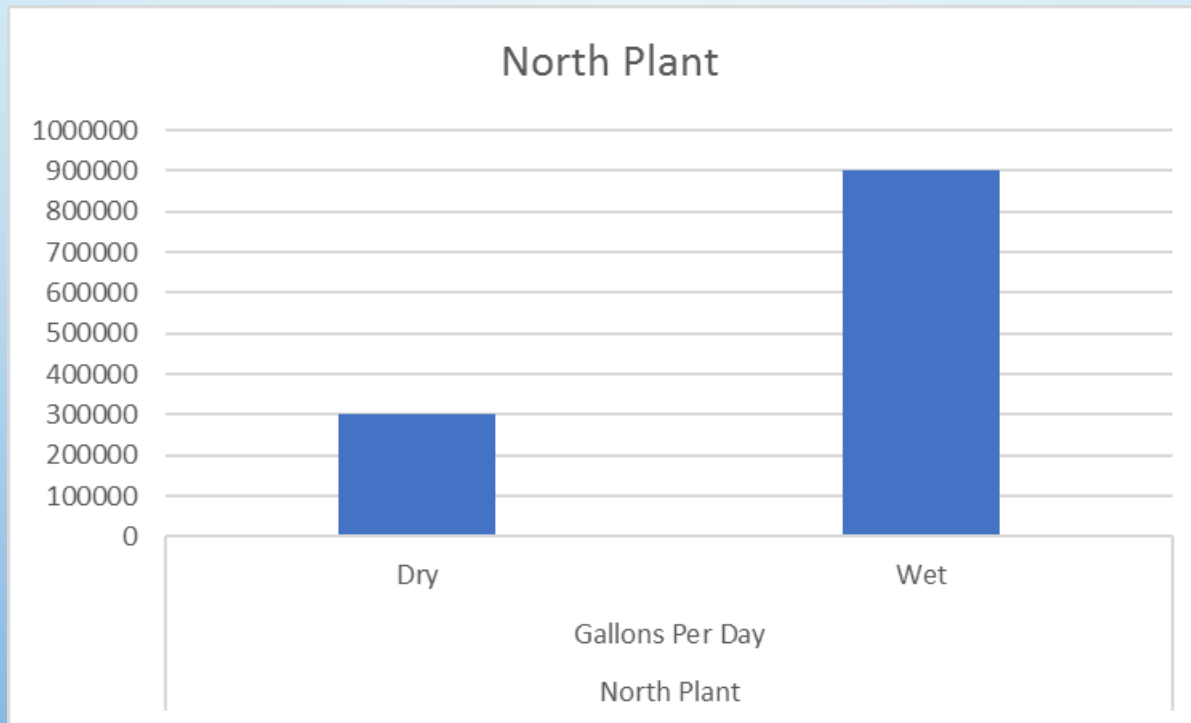
BENEFITS

- Reduces amount of flow treated after rain events
- Reduces operating cost of both sewer treatment plants

WEST PLANT VOLUME CHANGE



NORTH PLANT VOLUME CHANGE



7. NORTH PLANT UPGRADE & EAST/WEST REDIRECTION

DESCRIPTION

- Design and construct upgrade of North Sewer Plant to increase treatment capacity and improve quality of discharge
- Evaluate possible redirection of sewer flow generated in NW corner of Mirror Lake from North Plant to West Plant

COST ESTIMATE AND TIME FRAME

- \$3.0 million GEFA loan
- Design in 2019 (Simonton, proposed) and complete in 2020

BENEFITS

- Increases capacity of plant from current 0.5 MGD to permitted 0.8 MGD
- Improves quality of output to meet upcoming EPD standards

8. I-20 CROSSING QUICK FIX

DESCRIPTION

- Design and construct short sewer line between two manholes north of I-20 near Walmart

COST ESTIMATE AND TIME FRAME

- \$100,000 – pay as you go
- Design in 2018 (Brennan Jones, proposed) and complete in 2019

BENEFITS

- Provides second route for Hwy 61 corridor sewer flow to West Plant
- Somewhat mitigates the bottleneck caused by undersized pipe under I-20 near Walmart

OVERVIEW OF **LONG-TERM** PROJECTS

Hwy 61 corridor
Sewer
Improvements

Liberty Road
Bridge Water
Line Extension

Mirror Lake
Connector with
New Water &
Sewer Lines

North Bypass with
New Water &
Sewer Lines

Water Reuse

Water
Independence

9. HIGHWAY 61 CORRIDOR SEWER IMPROVEMENTS

DESCRIPTION

- Design and construct sewer line expansion along the Highway 61 corridor
- Evaluate construction of third treatment plant or regional lift station
- Review the feasibility of lift station consolidation
- Determine options for I-20 crossings

COST ESTIMATE AND TIME FRAME

- \$10 to \$15 million or more – bond issue
- Design in 2019-20 and complete in 2021-22 or later

BENEFITS

- Provides additional capacity for residential construction
- Provides additional capacity for annexation west of Hwy 61
- Provides additional capacity for second industrial park
- Increases the capacity of our sewer pipes under I-20

10. LIBERTY ROAD BRIDGE WATER LINE EXTENSION

DESCRIPTION

- Design and construct water line extension from Mirror Lake water tank at Conners Road under the Liberty Road Bridge over I-20 to new line on Edge Road
- Begin once GDOT bridge maintenance is complete (summer of 2019?)

COST ESTIMATE AND TIME FRAME

- \$1.0 million GEFA loan
- Design in 2020 and complete in 2021

BENEFITS

- Provides connectivity between the north and south side of the city
- Gives us redundant water line passage over I-20
- Takes advantage of casing that already exists in the bridge structure
- Fills in a portion of a city-wide system of 10-inch or 12-inch water lines

11. MIRROR LAKE CONNECTOR WATER & SEWER LINES

DESCRIPTION

- Design and construct new water and sewer line from N. Carroll Road to Shoreline Parkway along proposed road

COST ESTIMATE AND TIME FRAME

- \$2.0 million TSPLOST/TAD/SPLOST
- Design in 2021 or later and complete in 2022 or later
- Requires passage of Redevelopment Powers by voters
- Requires creation of Tax Allocation District (TAD) by City Council
- Requires participation in TAD by Carroll County and Carroll County Schools

BENEFITS

- Provides additional capacity for development along new roadway
- Adds to a city-wide system of 10-inch or 12-inch water lines

12. NORTH BYPASS WATER & SEWER LINES

DESCRIPTION

- Design and construct new water and sewer line from Industrial Blvd to Highway 61 along the proposed North Bypass

COST ESTIMATE AND TIME FRAME

- \$2.0 million TSPLOST/TAD/SPLOST
- Design in 2025 or 2026 (Keck & Wood) complete in 2027
- Requires passage of Redevelopment Powers by voters
- Requires creation of Tax Allocation District (TAD) by City Council
- Requires participation in TAD by Carroll County and Carroll County Schools

BENEFITS

- Provides additional capacity for development along new roadway
- Requires construction of North Loop by GDOT beginning in 2024
- Adds to a city-wide system of 10-inch or 12-inch water lines

13. WATER REUSE

DESCRIPTION

- Obtain the necessary permits for Indirect Potable Reuse
- Design and construct the system needed to transport discharge from West Plant to the area north of Lake Paradise

COST ESTIMATE AND TIME FRAME

- Cost is unknown – GEFA loan
- Time frame is unknown due to uncertainty concerning permit acquisition
- Research being conducted by Pete and Curtis

BENEFITS

- Provides additional raw water source to satisfy future demand
- Enables city to operate with less reliance on our neighboring water authorities

14. WATER INDEPENDENCE

DESCRIPTION

- Identify an additional raw water source
- Obtain the necessary permits
- Design and construct the system needed to transport

COST ESTIMATE AND TIME FRAME

- Cost is unknown – bond issue
- Time frame is unknown but extremely long in the best of circumstances
- Research being conducted by Integrated Science & Engineering

BENEFITS

- Provides additional raw water source to satisfy future demand
- Enables city to operate with less reliance on our neighboring water authorities

WHERE IS THE MONEY COMING FROM?

					Pay As
	PROJECT NAME	GEFA	Bond	TAD	You Go
1	Water Plant	3.5			
2	Edge Road	1.0			
3	Hwy 61 Water				0.3
4	North Avenue	4.0			
5	Lift Stations				1.0
6	I&I	1.0			
7	North Plant	3.0			
8	I-20 Crossing				0.1
9	Hwy 61 Sewer		10.0		
10	Liberty Road Bridge	1.0			
11	Mirror Lake Connector			2.0	
12	North Bypass			2.0	
13	Water Reuse				
14	Water Independence				
	Totals (in millions)	13.5	10.0	4.0	1.4

GEFA PROGRAMS AND RATES

Georgia Environmental Finance Authority

Loan Program Interest Rates

GEFA charges the following interest rates by loan program. Six amortization periods are offered. A loan with an amortization period between the tiers receives the interest rate for the next highest amortization tier, e.g., a seven-year loan receives the 10-year rate. The minimum interest rate is 0.50 percent.

Program	5-Year Loan	10-Year Loan	15-Year Loan	20-Year Loan	25-Year Loan	30-Year Loan	Annual Borrowing Maximum
Benchmark Rate	1.23%	1.56%	2.13%	2.75%	3.16%	3.43%	
Georgia Fund	1.23%	1.56%	2.13%	2.75%	N/A	N/A	\$3,000,000
Georgia Fund - Conservation or WaterFirst	0.98%	1.06%	1.38%	1.75%	N/A	N/A	\$3,000,000
Georgia Fund - PlanFirst	0.98%	1.31%	1.63%	2.25%	N/A	N/A	\$3,000,000
Clean Water State Revolving Fund (CWSRF)	0.73%**	1.06%	1.63%	2.25%	2.66%	2.93%	\$25,000,000
CWSRF - Conservation or WaterFirst	0.50%**	0.50%**	0.88%	1.25%	1.66%	1.93%	\$25,000,000
CWSRF - PlanFirst	0.50%**	0.81%	1.13%	1.75%	2.16%	2.43%	\$25,000,000
Drinking Water State Revolving Fund (DWSRF)	0.73%**	1.06%	1.63%	2.25%	N/A	N/A	\$25,000,000
DWSRF - Conservation or WaterFirst	0.50%**	0.50%**	0.88%	1.25%	N/A	N/A	\$25,000,000
DWSRF - PlanFirst	0.50%**	0.81%	1.13%	1.75%	N/A	N/A	\$25,000,000

**0.50% Interest Rate Floor

Effective January 23, 2018



HOW LONG WILL IT ALL TAKE?

SHORT-TERM PROJECTS

- The four water projects and the four sewer projects can be completed by 2020 assuming we implement all three rate increases and obtain the necessary GEFA loans

LONG-TERM PROJECTS

- The Hwy 61 sewer expansion will require at least two years for conceptual design and engineering, and maybe longer. Construction could take multiple years and might have to be completed in phases. Any significant growth along Hwy 61 and possibly west of Van Wert is dependent on this project.
- The Liberty Road bridge water line must await GDOT's bridge maintenance project (scheduled for 2019 or 2020) but could be completed by 2021
- The Mirror Lake Connector is dependent on the passage of both Redevelopment Powers and TSPLOST but could be completed by the middle of the next decade
- The North Loop is currently scheduled for a 2024 let date with a 2027 completion date. Our portion probably requires the use of a TAD and TSPLOST.
- The water reuse and water independence projects are currently just conceptual exercises. EPD isn't permitting reuse as we envision it, and we haven't identified a raw source for the independence project that is both available and affordable.

SUMMARY

- Projects 1-4 can be completed by 2020 for about \$9 million and combined would give us improved water pressure, flow, quality and capacity.
- Projects 5-8 can also be completed by 2020 for about \$5 million and combined would reduce our sewer operating costs and enable the buildout of Mirror Lake.
- Projects 9-12 could take 10 years to complete and cost more than \$15 million, but they would support a significant amount of new development for years to come.
- Water reuse, project 13, has yet to be widely permitted in Georgia. The raw water source needed for project 14, water independence, has yet to be identified.
- The majority of projects 1-8, 10 and 13 will require 20-year GEFA loans @ 2.75% or less. Projects 9 and 14 will require permanent bond financing. Projects 11-12 are alongside new roads and could use GEFA loans or increment tax financing as part of a TAD.