

Water / Wastewater Public Works Update

**Brant Keller,
Public Works & Utilities Director**

**2015
Public Works
And
Utilities
Status**

NRW Review

Pinetree Hill

WATER

Complete FRPS 8.1 Million by December 2015
Complete CDBG VI by December 2015
Hearns Creek Pump Station Condition Assessment 2015
Raw Water Mains Condition Assessment 2015
Harry Simmons Condition Assessment 2015

WASTEWATER

PCWWTP 16.1 Million Starts Construction late 2015
Ammonia/Nitrification Analysis 2015
Inter-Basin Transfer Analysis 2015
Sewer Modeling 2015-2016

STORMWATER

A-Z Kelsey BMP Construction 2015
Green - LID Ordinance Review Completion 2015
Capital Cost Mitigation Credits Completion 2015

Public Works

237-238 Construction Starts 3rd Qtr 2015
N. Hill Street and N. 6th Starts 2nd Qtr 2015
LCI Starts 2nd Qtr 2016
Bridge and Culvert Replacement 2nd Atr
Construct 2 Green Parks 2015

Things to Come Stressors – Strengths



Stressors

- Copper Rule 2012
- Ammonia Limits 2016
- Phosphorus Limits 2016
- Nutrient Standards TMDL
- Water Lose Reduction
- Aging Infrastructure
 - Raw Water Mains - 1929
 - Harry Simmons WTP – 1929
 - Heads Creek Pumps – 1964
- No Transportation Funding Options

Strengths

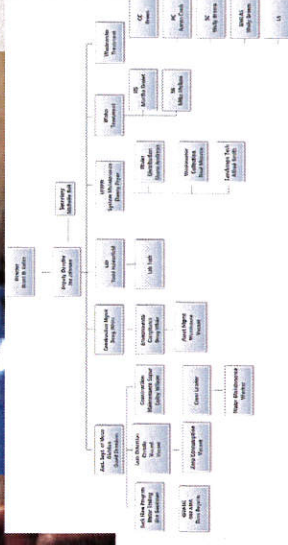
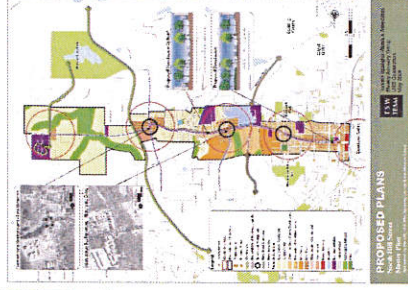
- Continuation of MCI
- New Industrial Customers Coming on Board
- Re-Org of Water/Wastewater Department
- Improving Plant Efficiencies
- EUM

Public Works and Utilities Update

Water Loss Control Program

237-238-L

AMM/AMR





PCWWTP
GEFA 13.1 Million
IDA 4.5 Million
CCRF 2.0 Million



FRPS
GEFA 6.275 Million
Cash 2.0 Million



Flint River Pump Station -FRPS

Original Project Value	Original GEFA Loan	New Project Value	New GEFA Loan
\$ 5,100,000.00	\$ 3,100,000.00	\$ 8,275,000.00	\$ 6,275,000.00

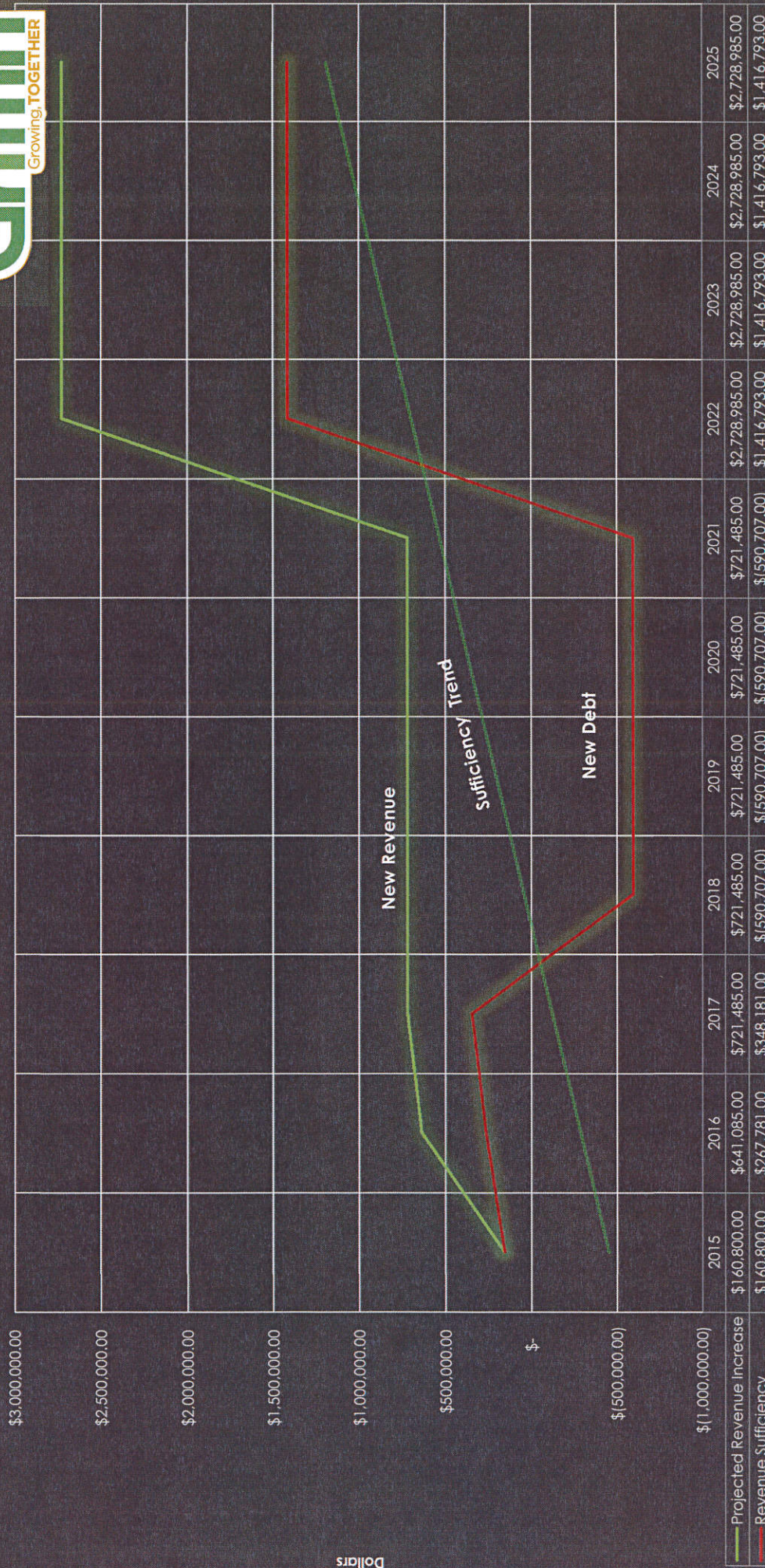
Potato Creek WWTP

Original Project Value	Original GEFA Loan	New Project Value	New GEFA Loan
\$ 16,000,000.00	\$ 9,500,000.00	\$ 19,200,000.00	\$ 13,100,000.00

Revenue Sufficiency 2015-2025



Projected Revenue Increase Revenue Sufficiency Linear (Revenue Sufficiency)



Dollars

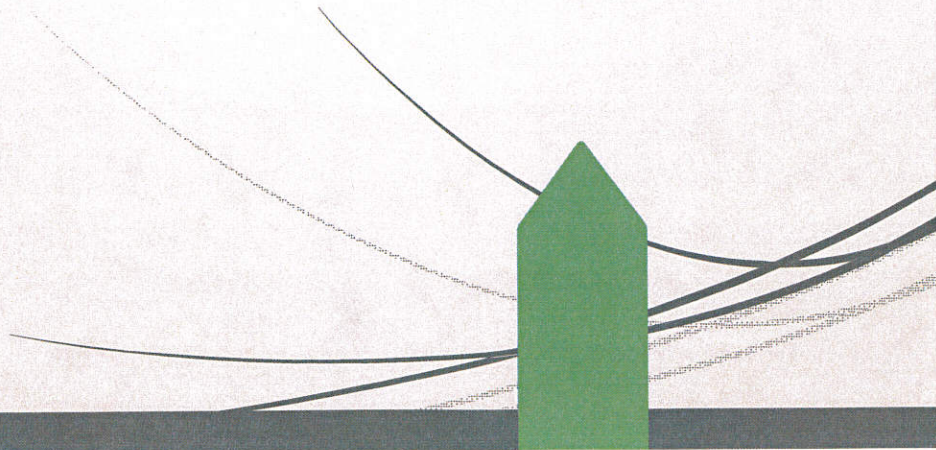
Year



Non-Revenue Water (NRW)

Water Distribution System

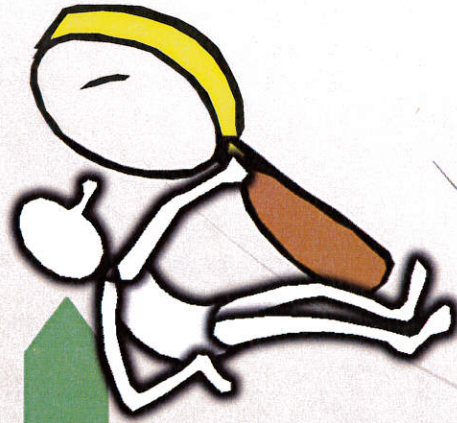
2010-2014



GAEPD Issues

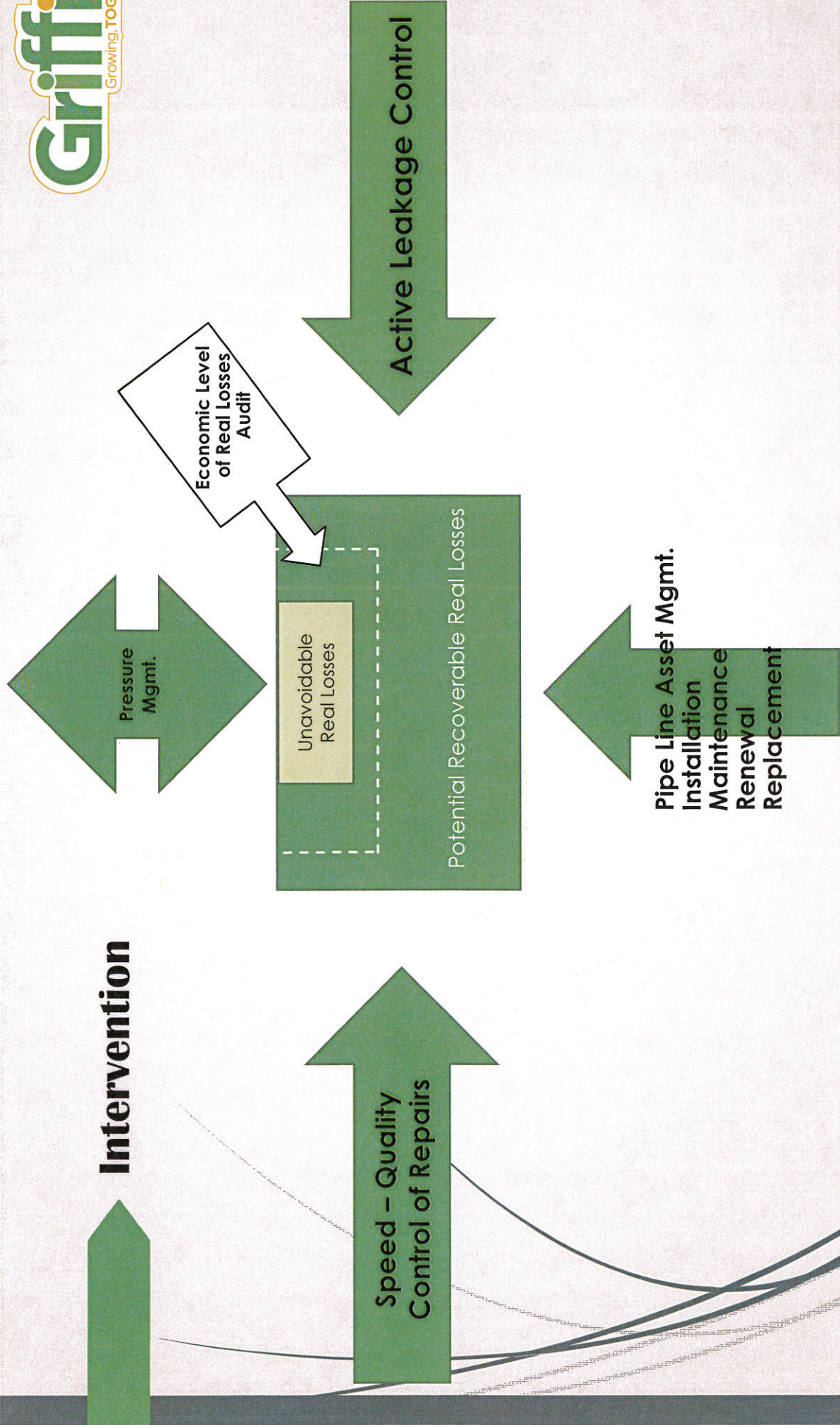
Still Branch Withdrawal Permit Conditions

- Permit Conditions for Withdrawal
- System Statistics
- Water Loss Control Program
- Water – Wastewater Department Reorganization - 2016

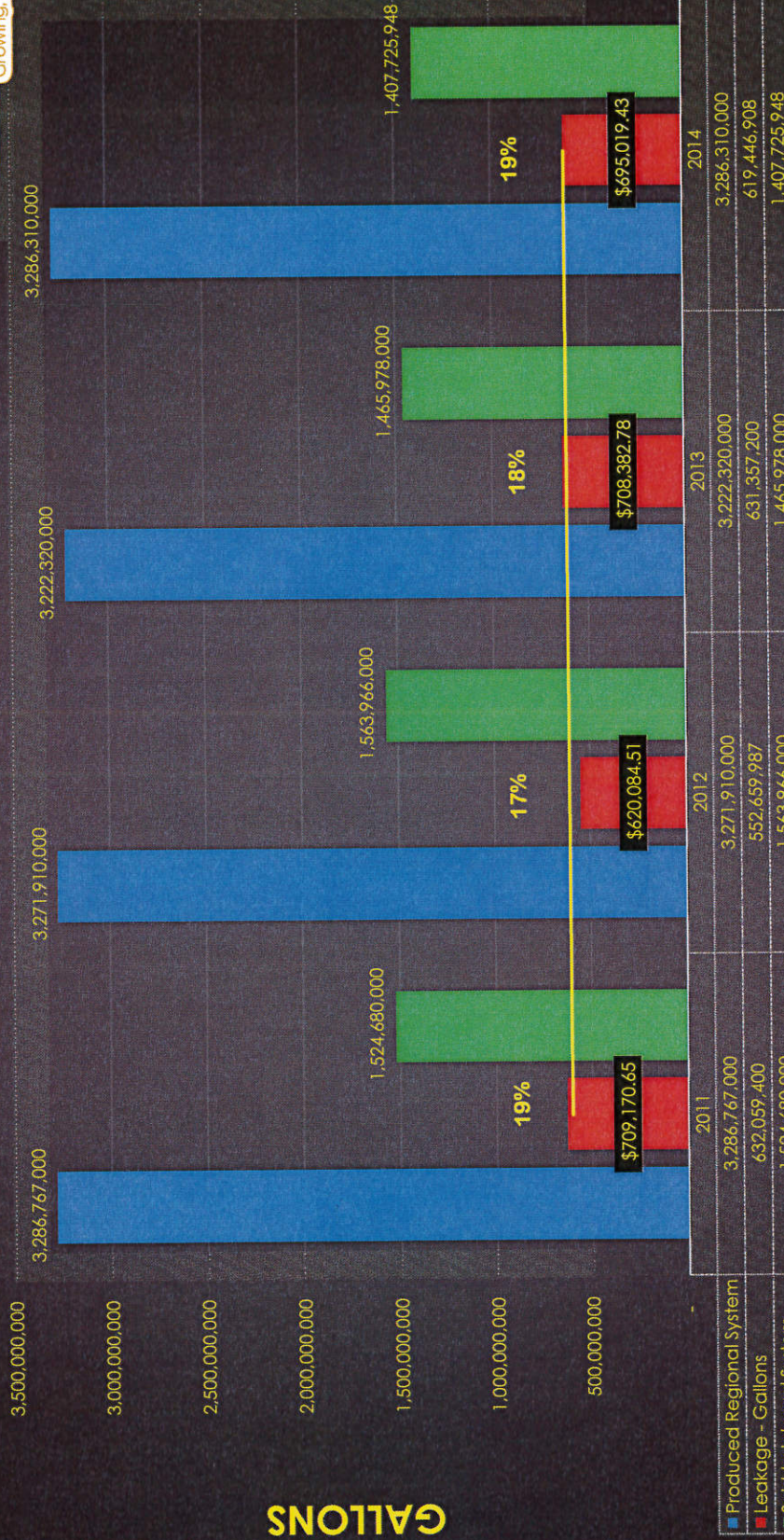


Where do we Start ?

1. Review the Numbers
2. Evaluation of Progress to Date
3. Review Billing & Customer Service
4. System Intervention



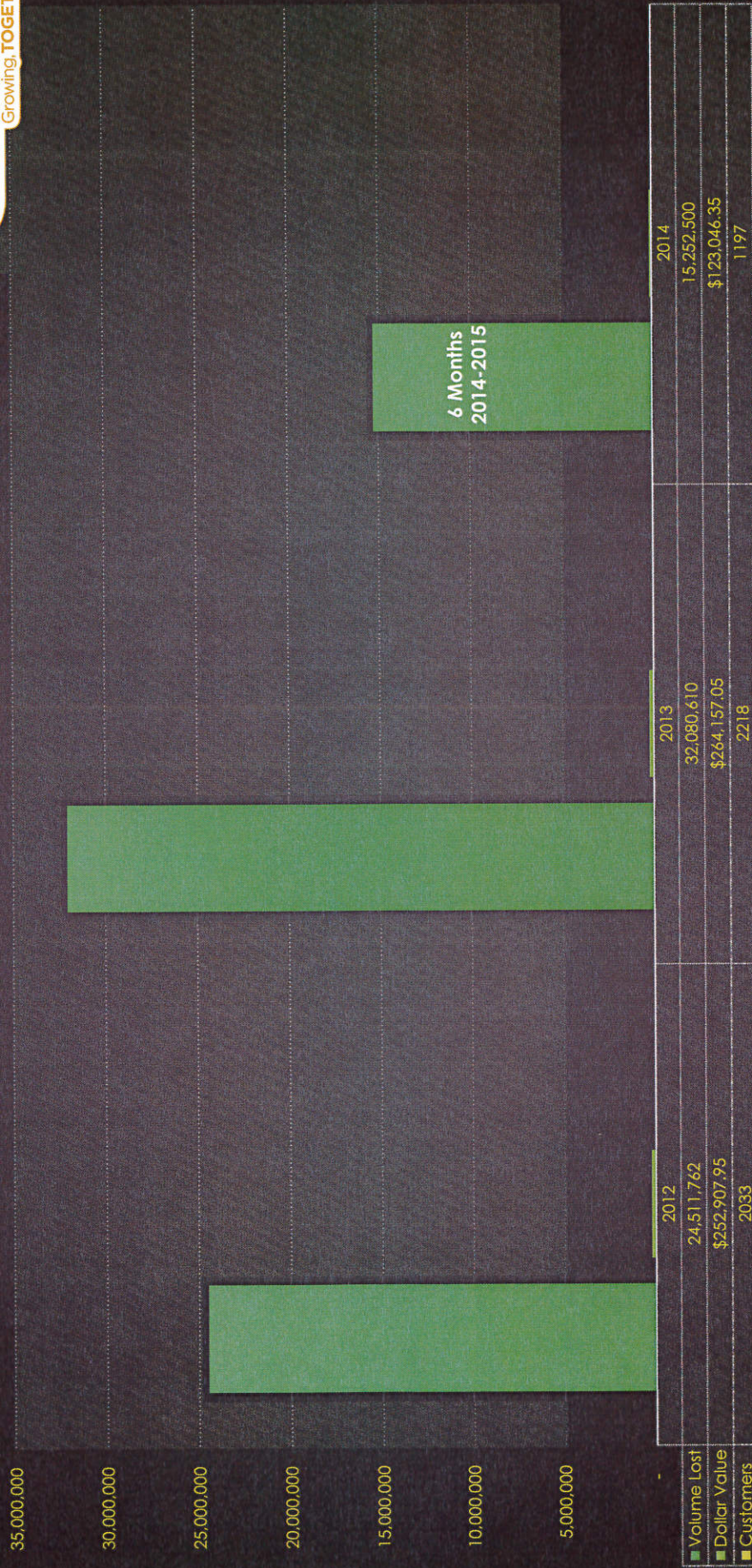
Non Revenue Water Loss



YEARS

GALLONS

Broken Pipe Policy



■ Volume Lost ■ Dollar Value ■ Customers



2014-2015	Accounts	Maintenance Disconnect with Consumption	0.00556
Jul			
Aug	113	249,300	\$ 1,386.11
Sep	119	414,700	\$ 2,305.73
Oct	121	603,700	\$ 3,356.57
Nov	119	425,700	\$ 2,366.89
Dec	118	424,100	\$ 2,358.00
Jan			
Feb			
Mar			
Apr			
May			
Jun			
Total		2,117,500	\$ 11,773.30

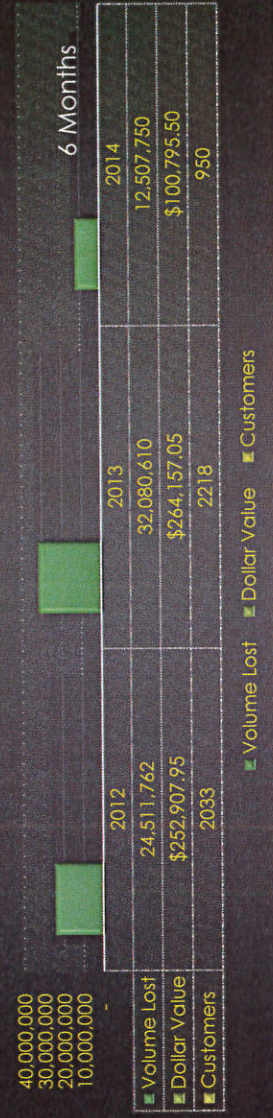
Accounts	Vacant with Consumption	0.00556	Total Units
111	755,300	\$ 4,199.47	1,004,600
74	861,600	\$ 4,790.50	1,276,300
110	326,100	\$ 1,813.12	929,800
83	665,200	\$ 3,698.51	1,090,900
91	559,500	\$ 3,110.82	983,600

Annualized Units Not Billed

25,809,600 Water and Wastewater

Value \$170.859

NRW Maintenance Disconnect - Vacant w/ Consumption



What is "Maintenance Disconnect w/Consumption?"

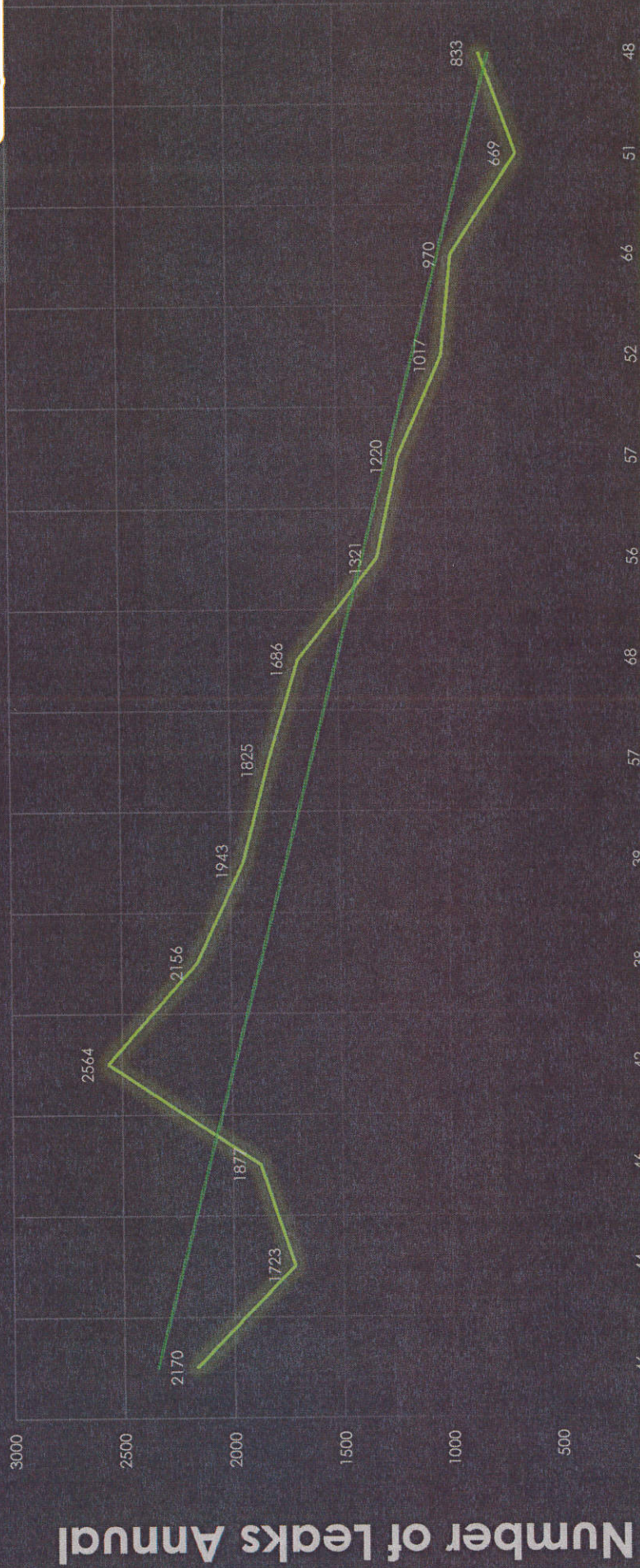
Customer owns property and wants electricity and no other services but meter is showing usage. Usually Rental Property

What is "Vacant w/consumption?"

Customer owns property and no one signs up for service but meter showing usage. Usually a home owner

Leak History

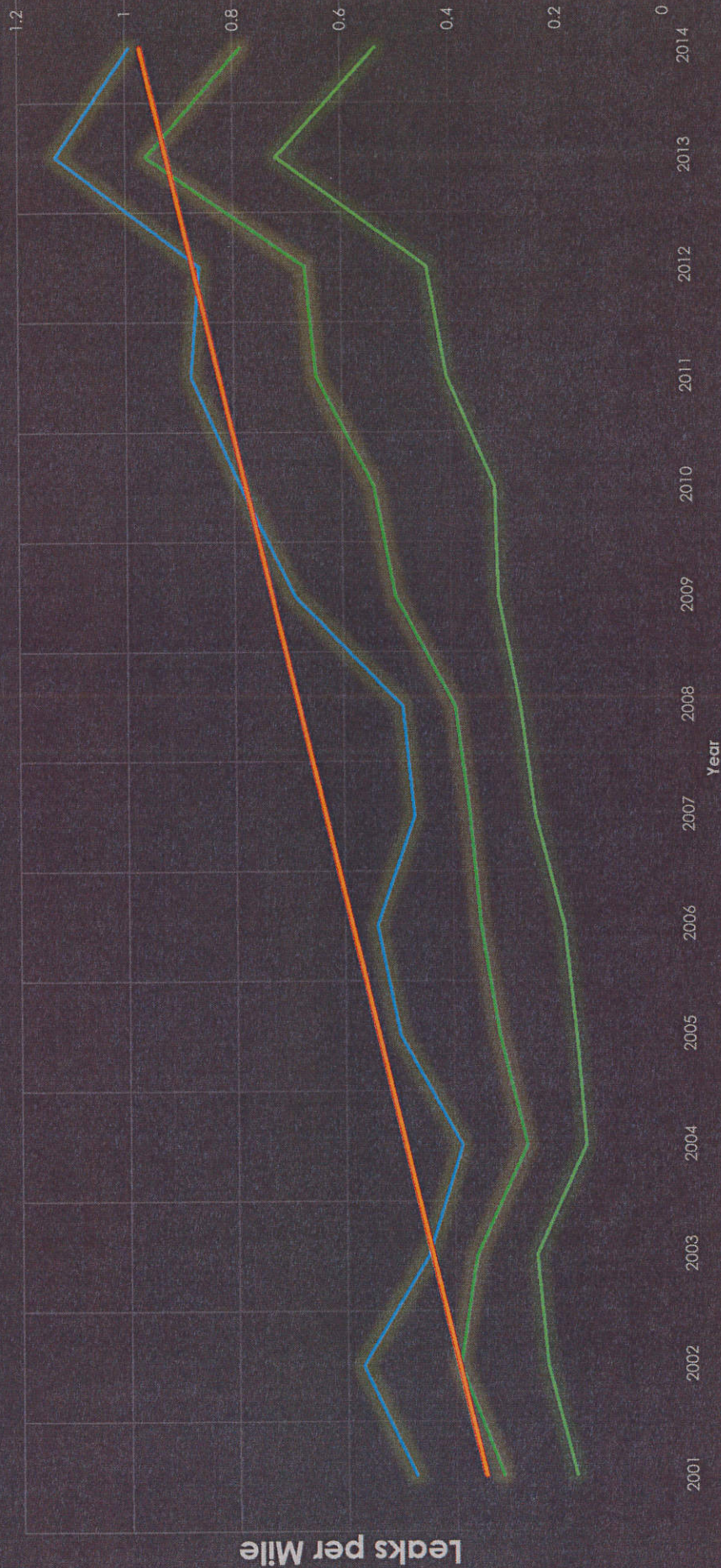
— Main Breaks — Service Leaks — Linear (Service Leaks)



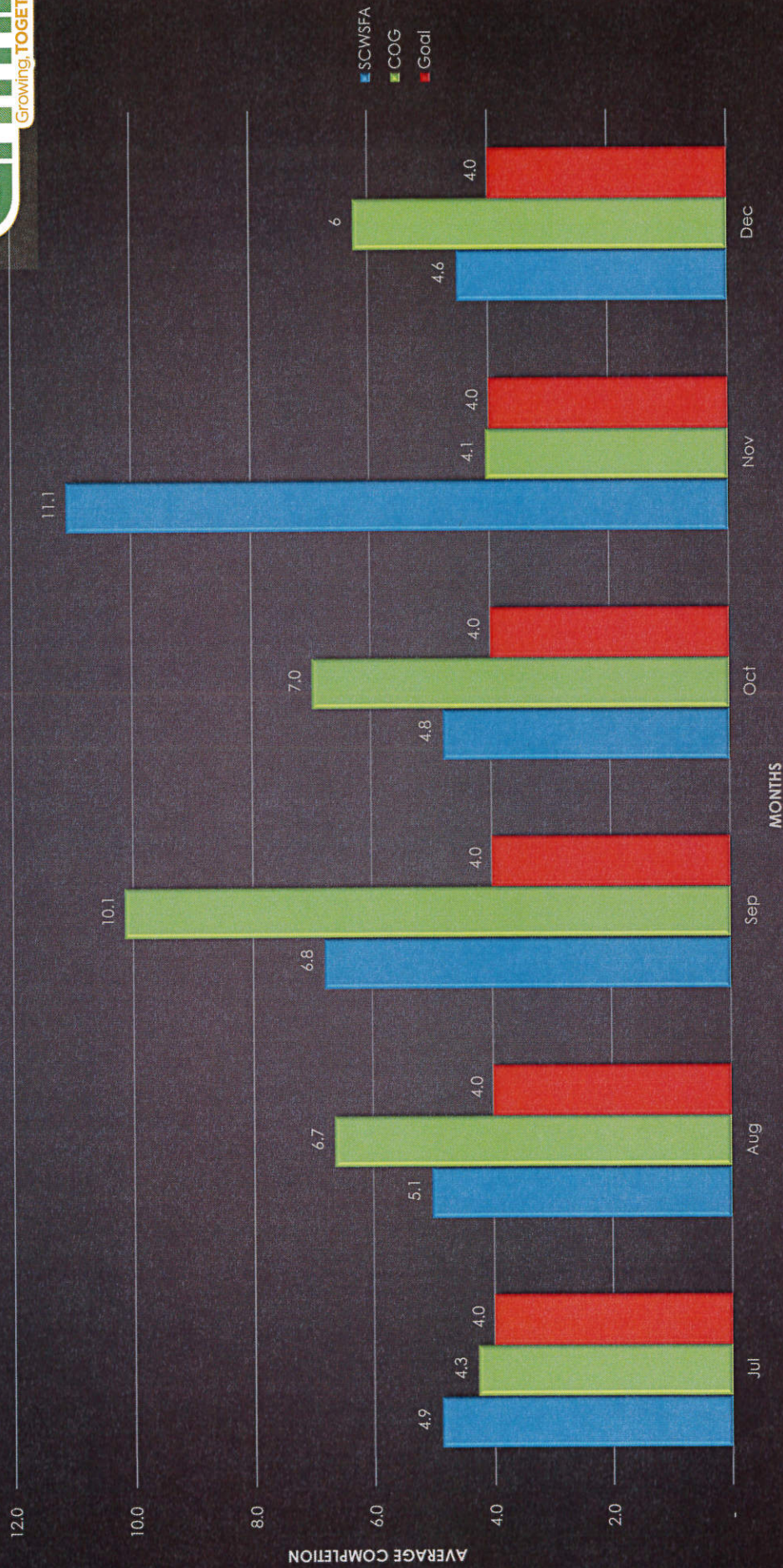
		0													
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Main Breaks		46	44	46	42	38	39	57	68	56	57	52	66	51	48
Service Leaks		2170	1723	1877	2564	2156	1943	1825	1686	1321	1220	1017	970	669	833

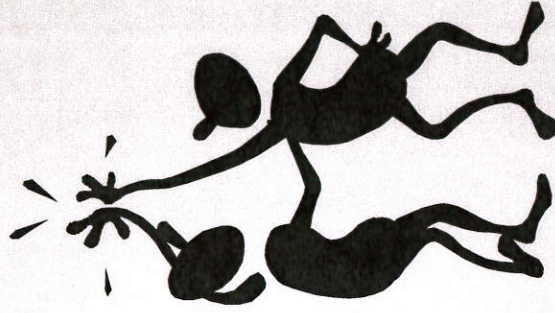
Leaks per Mile

— SCWSFA — COG — Integral — Linear (SCWSFA)



Leak Completion History Jul-Dec 2014



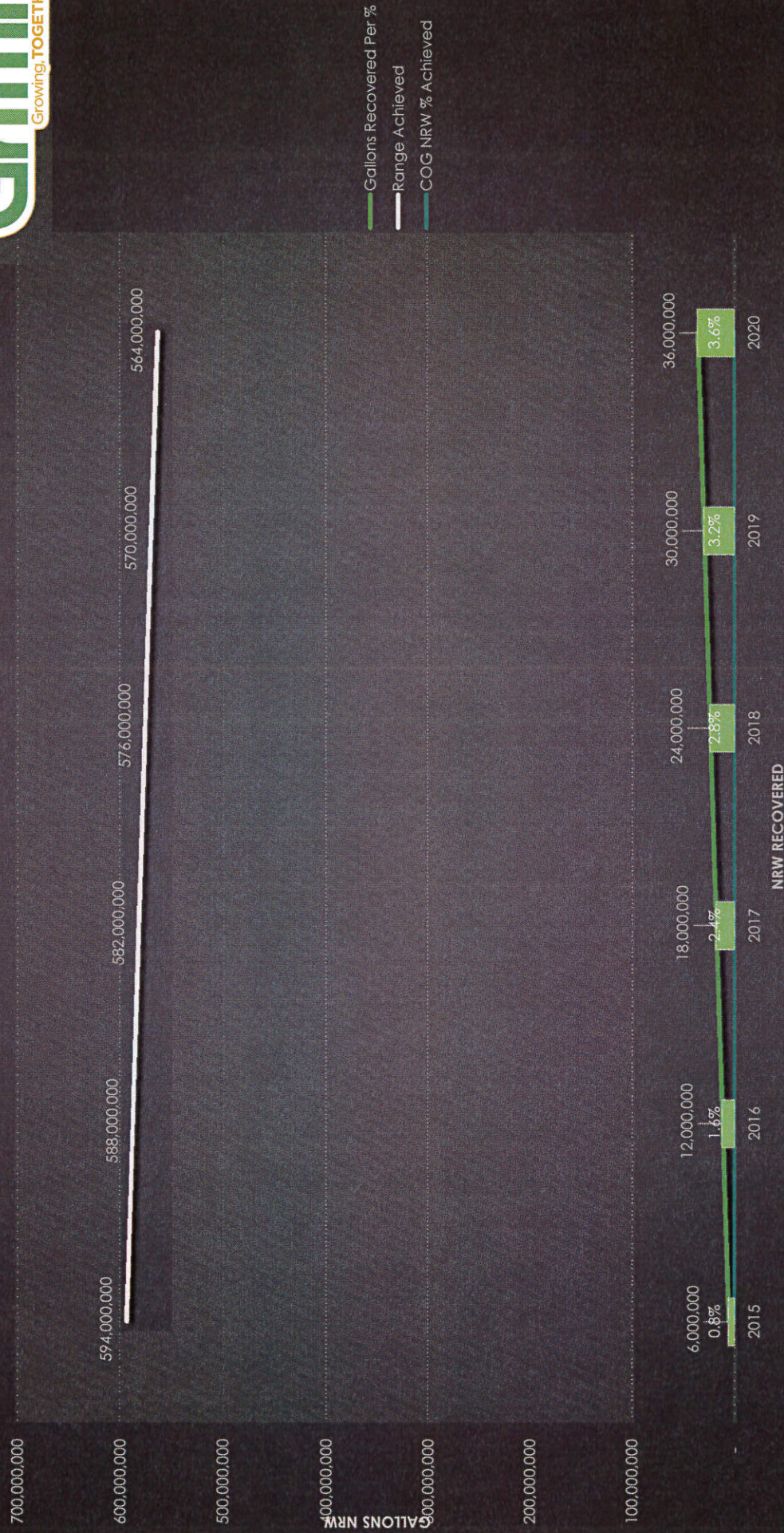


Intervention Goal - Acoustic						
	2015	2016	2017	2018	2019	2020
Acoustic Review Leaks(estimated miles)	208	208	208	208	208	
Data						
	Miles	Feet	Miles/Wk	Estimated total Weeks	Estimated Total Years	Total Estimated Leaks
System Pipe	692	3,653,760	4	173	3.33	1299

Leak Repair - Intervention Goal						
	2015	2016	2017	2018	2019	2020
Repair Service Leaks(estimated)	390	390	390	390		
Data						
	Miles	Feet	Leaks/Wk	Estimated total Weeks	Estimated Total Years	Total Estimated Leaks
System Pipe	692	3,653,760	7.5	173.2	3.33	1299



DRAFT System Leak Detection Plan

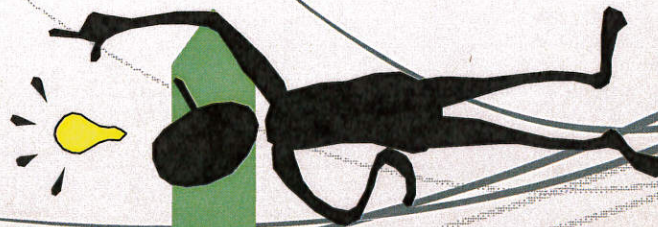
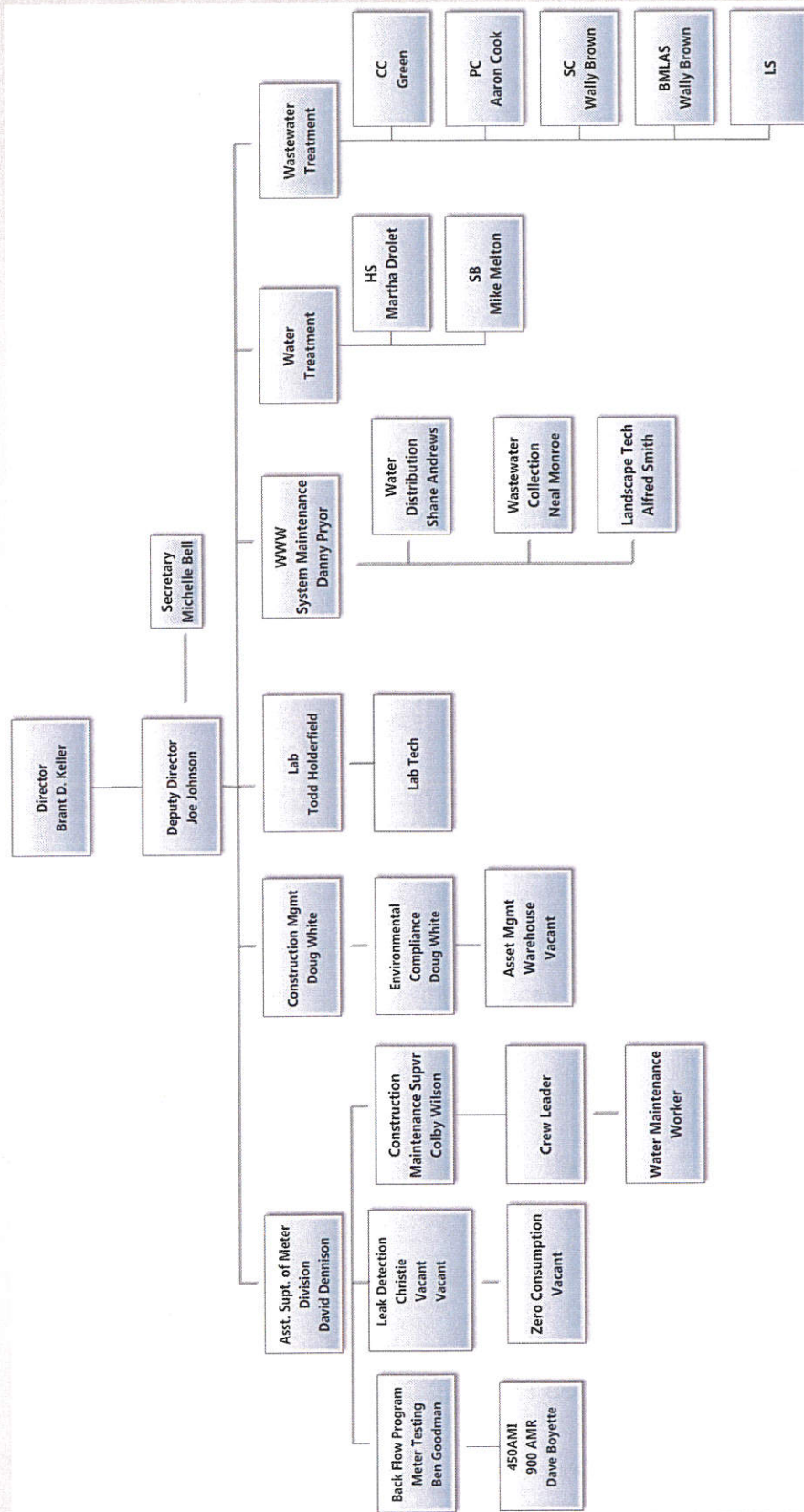




Water Loss Control Program		FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20
Program Support & Benchmarking						
Accounting & Key Performance Indicators (KPI) Tracking		x	x	x	x	x
Team Meetings & Support		x	x	x	x	x
Assignments & Accountability		x				
Annual Water Audit/Report		x	x	x	x	x
Communications - Board		x	x	x	x	x
Process Enhancements for Billing & Metering		x	x	x	x	x
Accounts Field Inventory		x	x	x	x	x
Finished Water Meter Testing						
Installation of Test Ports				x	x	x
Pilot Insertion-Type Test				x	x	x
Ongoing Insertion-Type Test				x	x	x
Periodic In-House test - Ultrasonic/Drawdown				x	x	x
Large Meter Testing & Repair (≥3")						
Pilot Testing - 63 Meters	5	5	5	5	5	5
Large Meter Calibration	x	x	x	x	x	x
Equipment Acquisition & Training	x	x	x	x	x	x
Ongoing Testing & Repair - 63 Meters	5	5	5	5	5	5
AMR/AMI Conversion for Non-Residential Meters						
4" and larger (approx 31)	x					
3" (approx 22)	x					
2" (approx 225)		x				
Leakage Management						
Complete Hydraulic Analysis Update w/ Water Gems	x					
DMA Model Review		x				
Develop CIP Implementation Plan for Possible DMA's		x				
Leak Survey of System City 212 Miles	212					
Leak Survey of County 480 Miles	240					
Ongoing Active Leak Detection	x	x	x	x	x	x
Pressure Management Investigation	x	x	x	x	x	x
Right Sizing of Meters						
Pilot Analysis - 20 Meters (≥2")	20	20	20	20	20	20
Analysis of - 30 Meters (≤1.5")	10	10	10	10	10	10
Meter Replacement	x	x	x	x	x	x
Annual Review of Customer Accounts for Right Sizing	x	x	x	x	x	x
Small Meter Testing & Replacement						
Test Residential Meters	750	750	750	750	750	750
Performance Curve Analysis	x	x	x	x	x	x
Ongoing Testing & Replacement	4200	2500	2500	2500	2500	2500
Distribution Operations						
Record Speed of Repair						
Record Quality of Repair						
Renewals						
Replacement						

The logo for Griffin Growing Together features the word "Griffin" in a large, stylized green font with a yellow outline. To the right of the word is a vertical timeline with four segments labeled "2014", "2015", "2016", and "2017". To the right of the timeline is the phrase "Growing Together" in a yellow, sans-serif font.

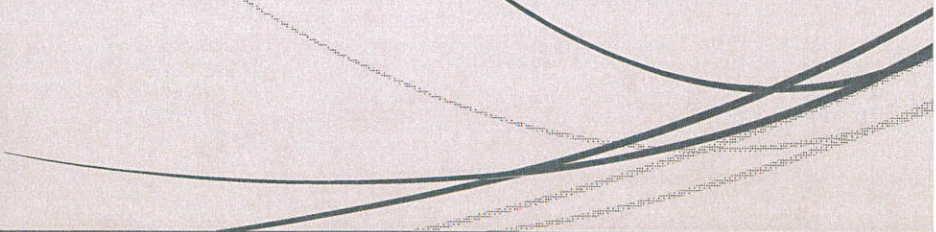
Distribution - Hydraulic Analysis



Pinetree Hill Project

- Proposed Manhole
- Proposed Gravity Main
- Existing City of Griffin Manhole
- Existing City of Griffin Sewer
- Existing City of Griffin Lift Station
- Existing City of Griffin Forcemain









Pinetree Hill Sewer Project

	Cabin Creek Connector				Phase I Pinetree Hill				Phase II Pinetree Hill				TOTAL
	Unit	Quantity	Unit Price	Item Total	Unit	Quantity	Unit Price	Item Total	Unit	Quantity	Unit Price	Item Total	
GENERAL													
Payment & Performance Bonds	LS	1	\$ 3,653.44	\$ 3,653.44	LS	1	\$ 31,325.53	\$ 31,325.53	LS	1	\$ 25,471.60	\$ 25,471.60	\$ 60,450.57
General Conditions	LS	1	\$ 16,237.50	\$ 16,237.50	LS	1	\$ 81,365.00	\$ 81,365.00	LS	1	\$ 66,160.00	\$ 66,160.00	\$ 163,762.50
Construction Staking (Surveyor)	LS	1	\$ 5,000.00	\$ 5,000.00	LS	1	\$ 6,000.00	\$ 6,000.00	LS	1	\$ 20,000.00	\$ 20,000.00	\$ 31,000.00
SANITARY SEWER													
8" PVC Sewer Force Main	LF	860	\$ 45.00	\$ 38,700.00	LF	4350	\$ 45.00	\$ 195,750.00	LF	5100	\$ 45.00	\$ 229,500.00	\$ 463,950.00
4" PVC Sewer Force Main	LF	3	\$ 1,700.00	\$ 5,100.00	LF	1375	\$ 20.00	\$ 27,500.00	LF	0		\$ -	\$ 32,400.00
4' Diameter SS Manhole - 4' base	EA	18	\$ 200.00	\$ 3,600.00	EA	14	\$ -	\$ -	EA	19	\$ 1,700.00	\$ 32,300.00	\$ 35,900.00
Additional Footage Vertical SSMH	VF	1	\$ 2,500.00	\$ 2,500.00	VF	84	\$ 200.00	\$ 16,800.00	VF	114	\$ 200.00	\$ 22,800.00	\$ 42,100.00
Core Man Hole	EA		\$ -	\$ -	EA		\$ -	\$ -	EA		\$ -	\$ -	\$ -
Lift Station	LS		\$ -	\$ -	LS	1	\$ 200,000.00	\$ 200,000.00	LS		\$ -	\$ -	\$ 200,000.00
Sewer Lateral from Main to ROW	EA		\$ -	\$ -	EA	54	\$ 2,200.00	\$ 118,800.00	EA	60	\$ 2,200.00	\$ 132,000.00	\$ 250,800.00
MISCELLANEOUS													
MISC.	LS	1	\$ 75,000.00	\$ 75,000.00	LS	1	\$ 225,000.00	\$ 225,000.00	LS	1	\$ 225,000.00	\$ 225,000.00	\$ 525,000.00
CONTINGENCY													
Contingency 12%	LS	1	\$ 17,974.91	\$ 17,974.91	LS	1	\$ 111,160.00	\$ 111,160.00	LS	1	\$ 90,387.79	\$ 90,387.79	\$ 219,522.70
ENGINEERING													
Engineering	LS	1	\$ 25,164.89	\$ 25,164.89	LS	1	\$ 126,542.91	\$ 126,542.91	LS	1	\$ 155,562.20	\$ 155,562.20	\$ 307,270.00



Description

Other Costs/Connection

Amount

92

147

Closure of Septic Tanks

\$ 500.00

\$ 46,000.00

\$ 73,500.00

Service Line to House

\$ 1,800.00

\$ 165,600.00

\$ 264,600.00

CCRF

\$ 2,200.00

\$ 202,400.00

\$ 323,400.00

Tap Fee

\$ 750.00

\$ 69,000.00

\$ 110,250.00

\$ 5,250.00

\$ 483,000.00

\$ 771,750.00

Cost

92

147

\$ 2,332,355.77

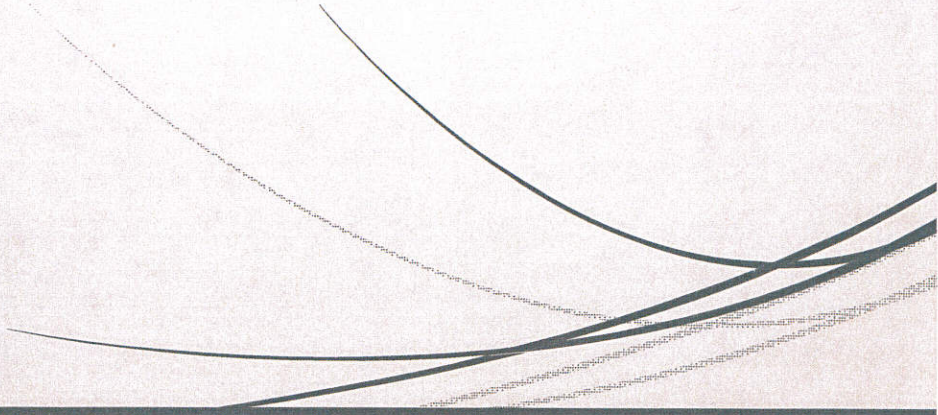
\$ 483,000.00

Cost Per Connection

\$ 2,815,355.77

\$ 30,601.69

Lunch Break





2015 Goals Discussion

Doug Hollberg, Commission Chairman



2015 Goals Commission

