Water /Sewer Systems Concession Lease

Presented by: City of Allentown
Office of Compliance, Department of Public Works

610-437-7587

June 27, 2018

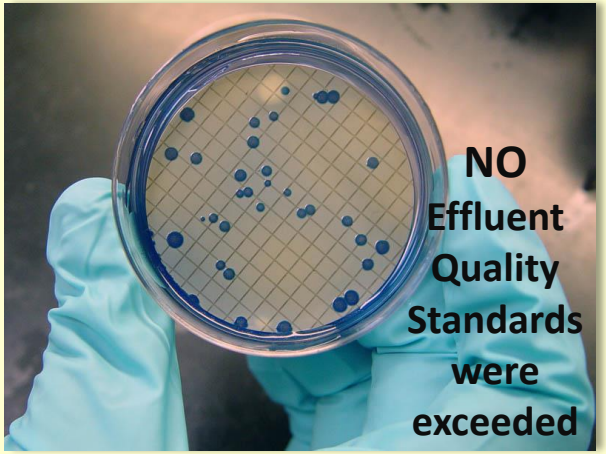
Introduction

Wastewater Treatment

11.2 Billion gallons of wastewater treated in 2017

Wastewater Treatment Plant

		Performance Standards	NPDES Discharge Permit Effluent Limitations		
Parameter	**LCA**	**Monthly Average Effluent Concentration**	**Monthly Average Effluent Limit**	**Weekly Average Effluent Limit**	**Instantaneous (Daily) Maximum Effluent Limit**
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	Met Requirement	≤ 12 mg/L	20 mg/L	30 mg/L	40 mg/L
CBOD5 Percent Removal	Met Requirement	≥ 90 %	≥90 %	---	---
Total Suspended Solids (TSS)	Met Requirement	≤12 mg/L	30 mg/L	45 mg/L	60 mg/L
TSS Percent Removal	Met Requirement	≥90 %	≥90 %	---	---
Ammonia Nitrogen (NH_3-N) May 1 to October 31	Met Requirement	≤4.0 mg/L	5 mg/L	---	10 mg/L
Ammonia Nitrogen November 1 to April 30	Met Requirement	≤12.4 mg/L	15 mg/L	---	30 mg/L
Fecal Coliform May 1 to September 31	Met Requirement	200/100 ml geometric mean			
Fecal Coliform October 1 to April 30	Met Requirement	2,000/100 ml geometric mean			
Residual Chlorine	Met Requirement	≤0.5 mg/L			
pH	Met Requirement	6.0 to 9.0 SU			
Dissolved Oxygen	Met Requirement	5.0 mg/L minimum			



Wastewater Treatment Plant

Headworks Overflow

Outfall 003

No Odor Complaints

Wastewater Treatment Plant

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In November 2016, comments to the 3rd draft NPDES Permit were submitted to PaDEP. No response has been given.

Regulatory Update

Biosolids

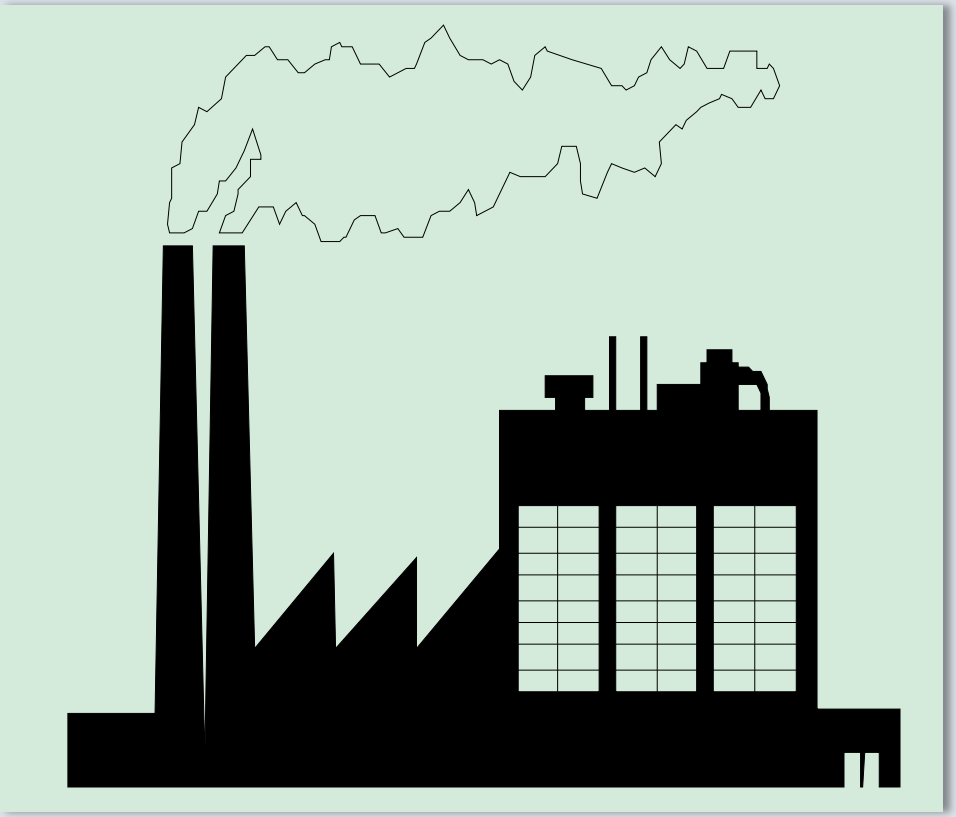
Deliver to Farm

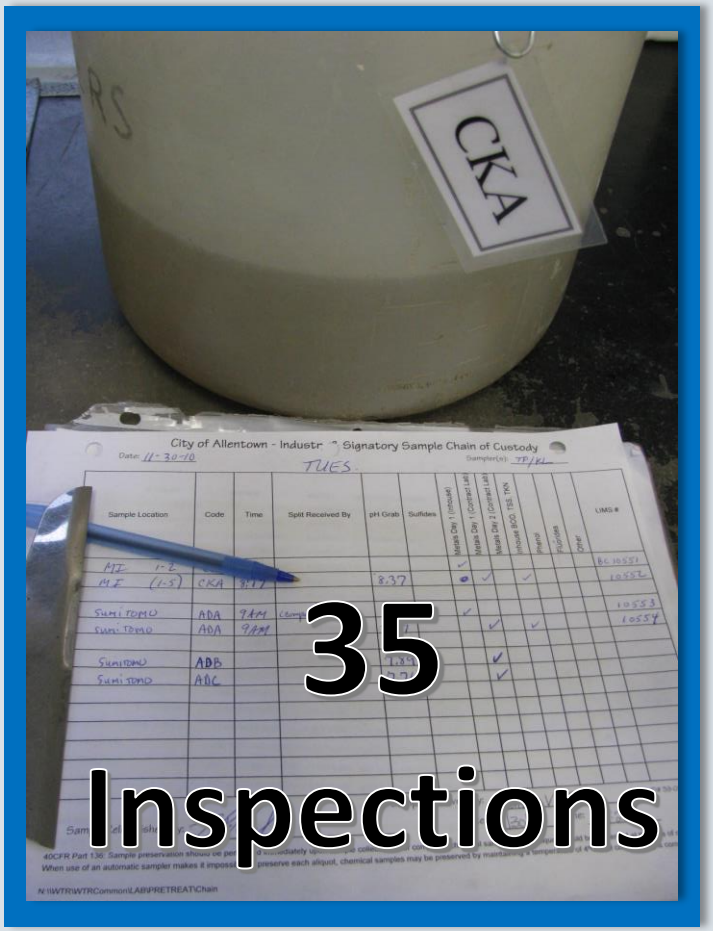
Land apply

Improved Soil Conditions

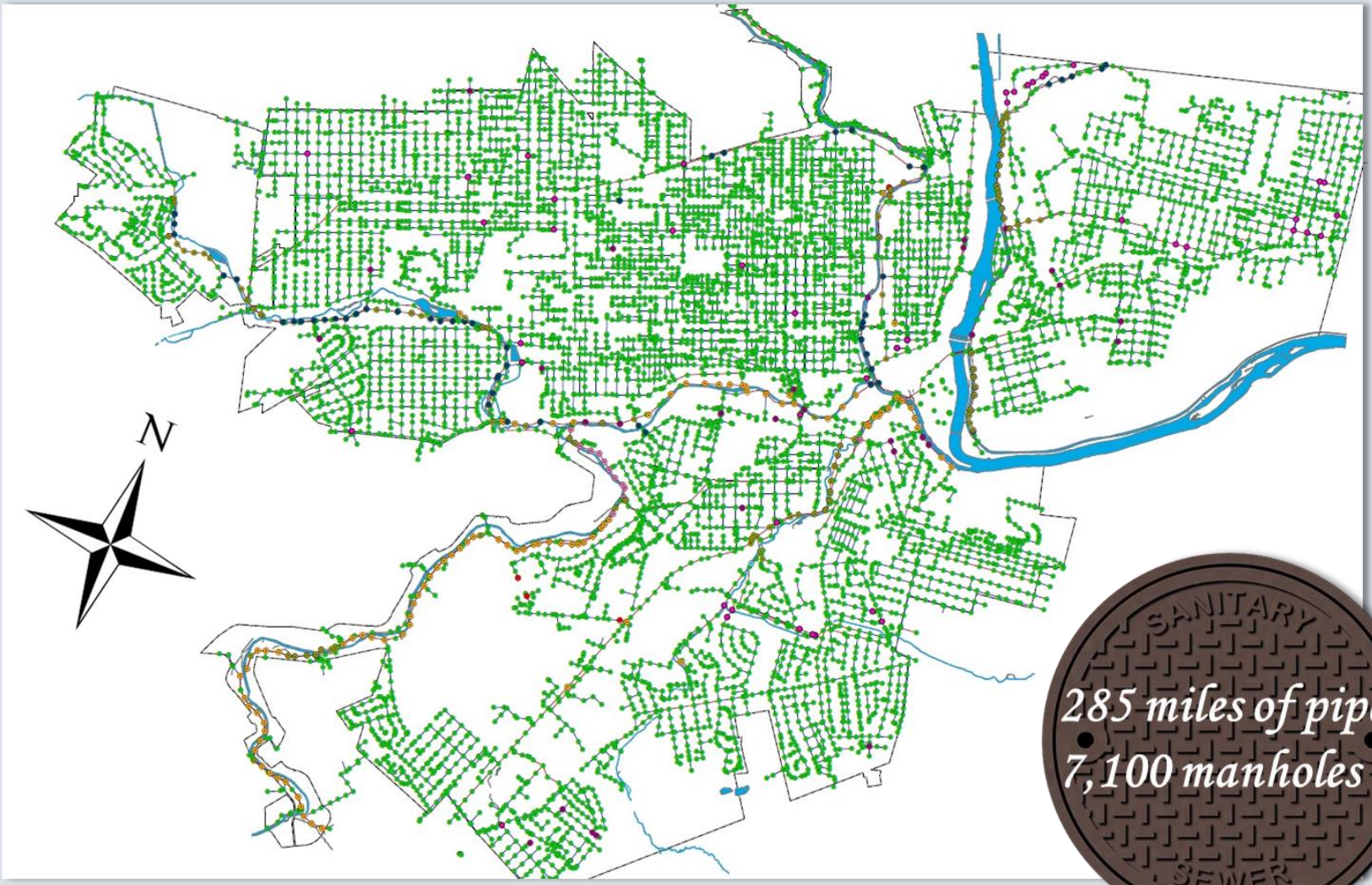
Industrial Pretreatment

- Control interference with WWTP operations
- Control pass through of pollutants
- Control sludge quality
- Control exposure of workers to chemical hazards

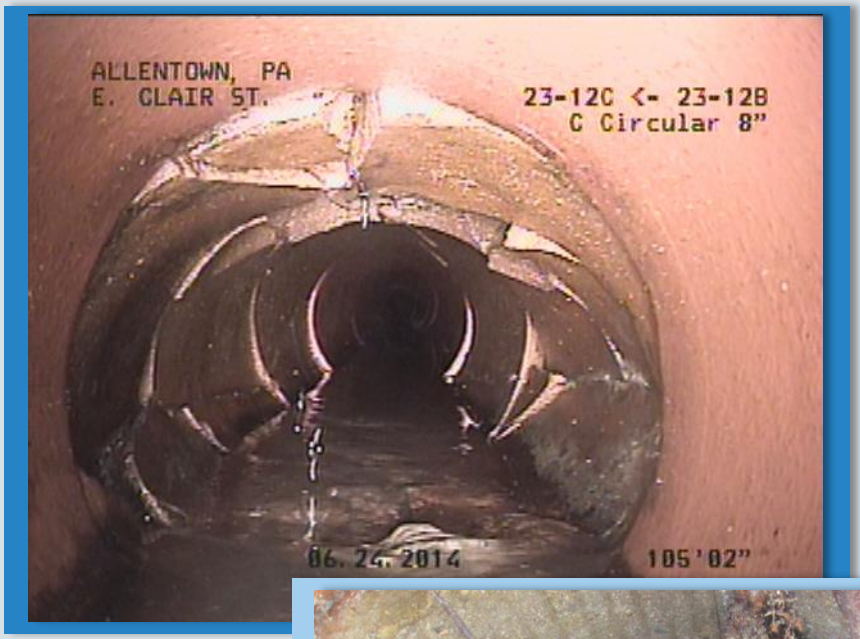


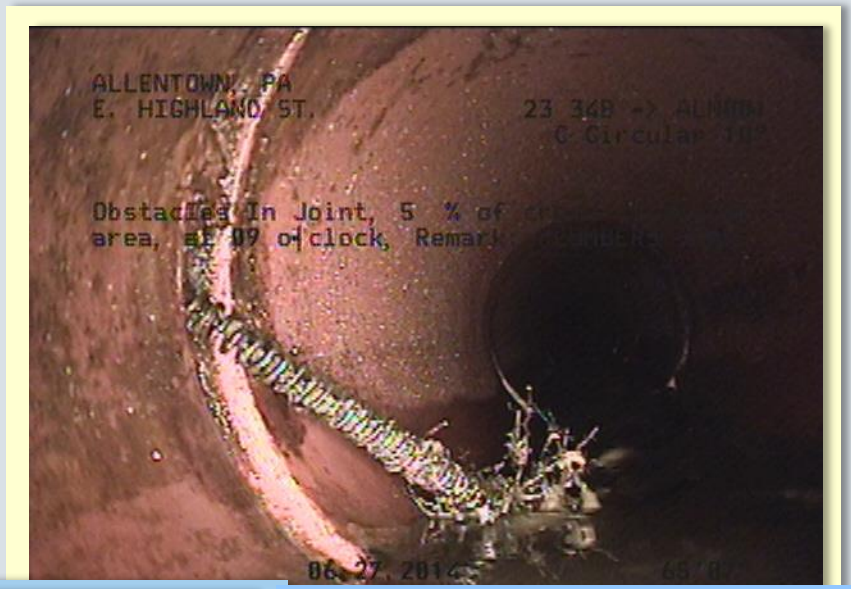


Sewage Collection System



Sewage Collection System





CCTV Minimum linear footage requirement: 55,000 feet

Linear feet televised

158,735 feet (Including credits)

Sewage Collection System

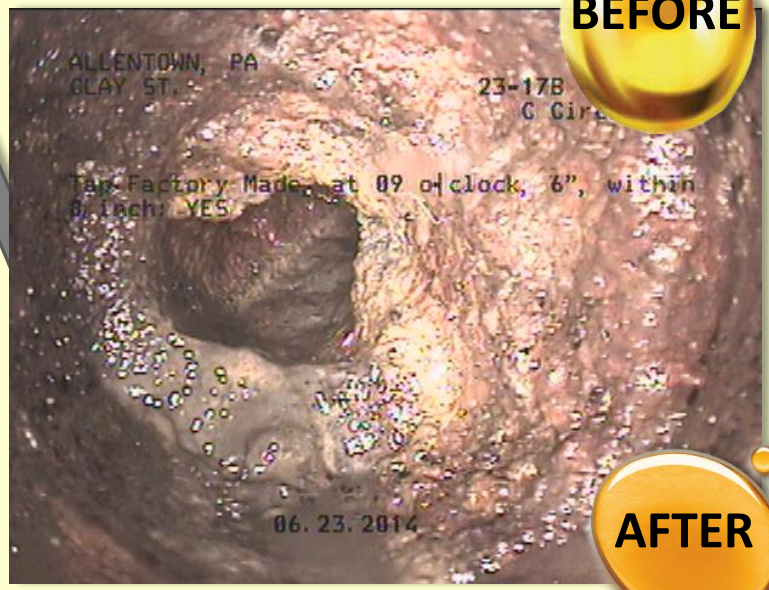
Tree roots block sewer pipe.

Maintain the lateral from your home.

Residents can help **STOP** SSO's

61,695 feet treated

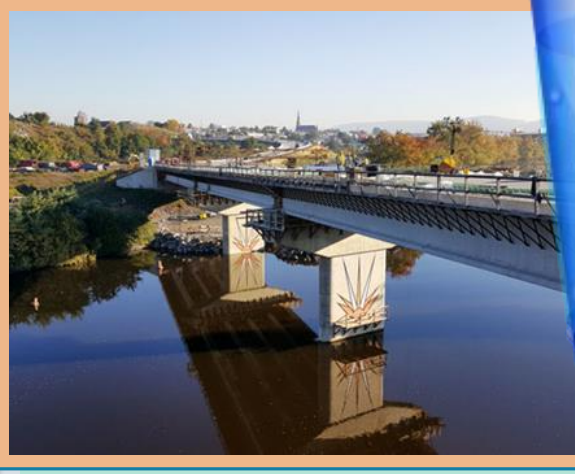
BEFORE



AFTER

Drinking Water Treatment and Production

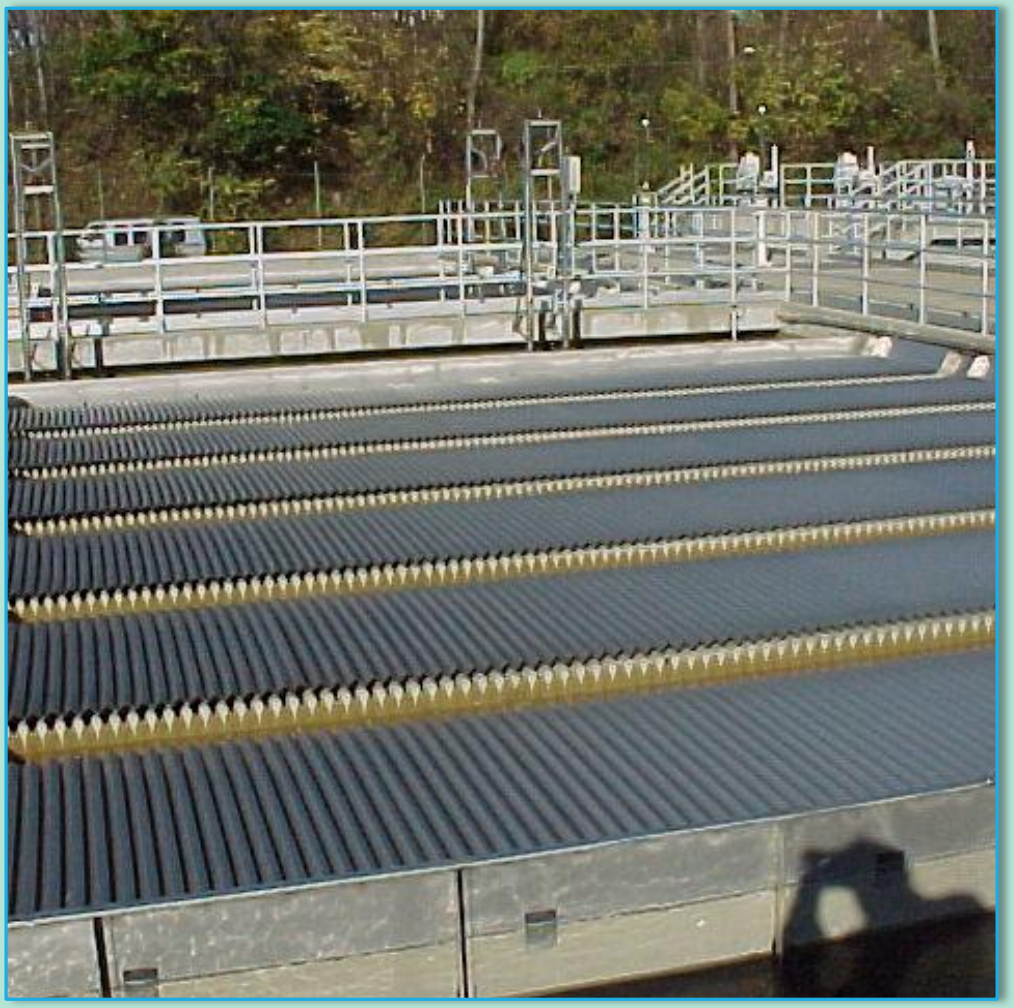
Finished Water is produced from 4 sources: Little Lehigh Creek, Schantz Spring, Crystal Spring & Lehigh River



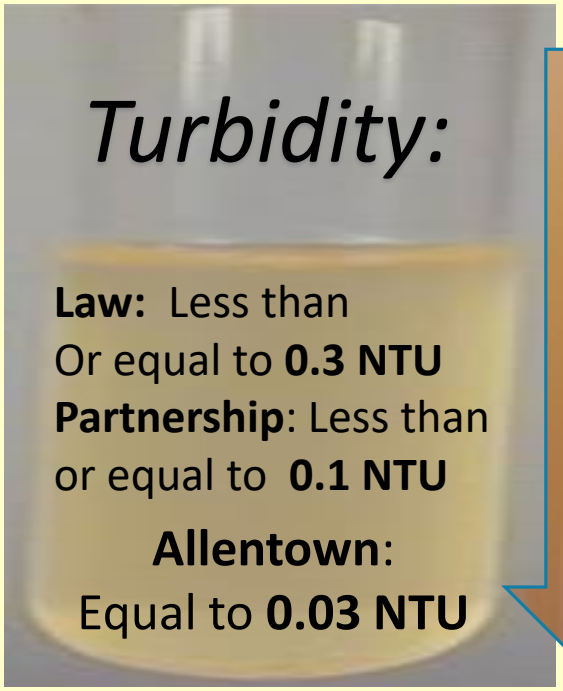
The Allentown Water Filtration Plant averaged 21.16 mgd

49% of finished water is from the Springs

Drinking Water Treatment and Production



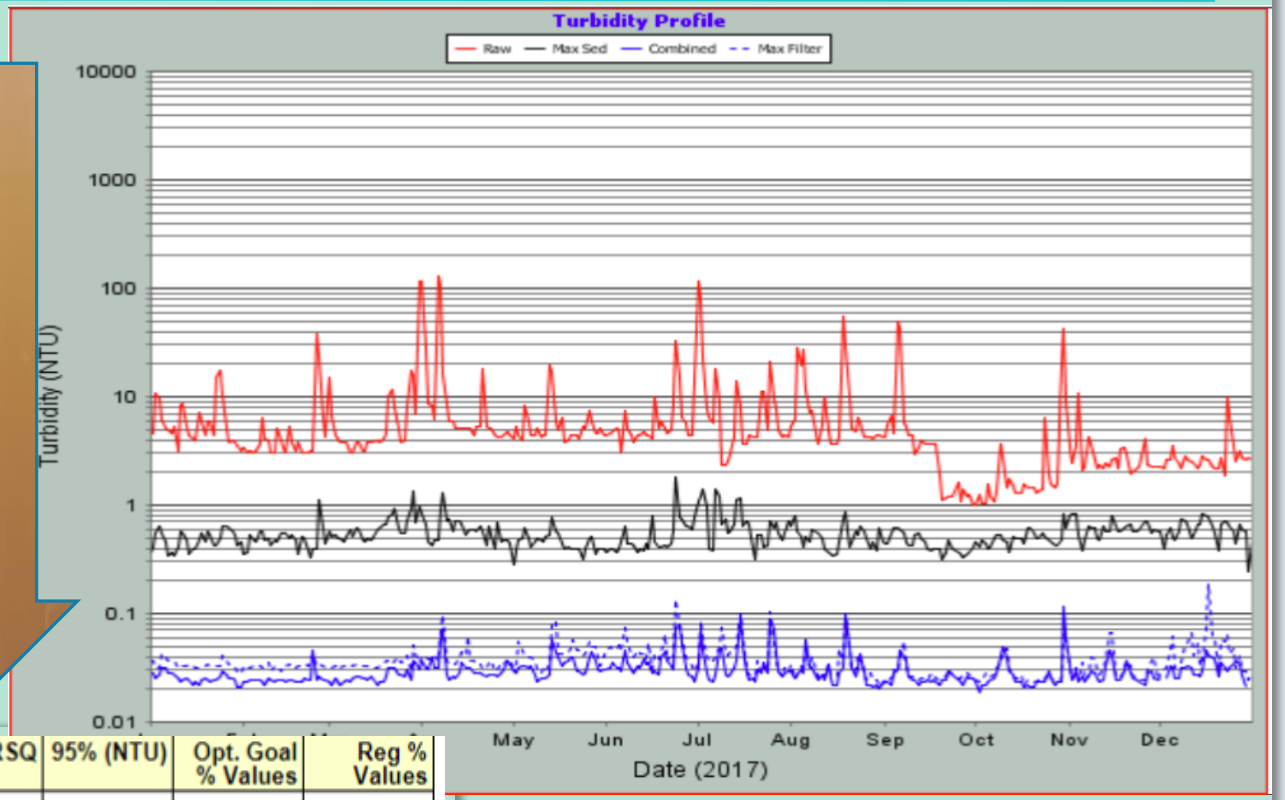
Drinking Water Treatment and Production



Turbidity:

Law: Less than
Or equal to **0.3 NTU**
Partnership: Less than
or equal to **0.1 NTU**

Allentown:
Equal to **0.03 NTU**



ANNUAL DATA	Avg (NTU)	Min (NTU)	Max (NTU)	RSQ	95% (NTU)	Opt. Goal % Values	Reg % Values
Raw Turbidity	7.6	0.98	131.59	n/a	21.01	n/a	n/a
Max. Settled Turbidity	0.55	0.24	1.83	0.14	0.84	97	n/a
Max. Filtered Turbidity	0.038	0.022	0.188	0.2	0.064	98.9	n/a
Combined Filtered Turbidity	0.03	0.019	0.114	0.54	0.047	99.7	100

RSQ = Correlation Coefficient for two selected data sets.
95% = 95th Percentile value for data set.
Opt. Goal = % of values in data set that are less than or equal to the selected optimization turbidity goal.
Reg. = % of values in data set that are less than or equal to the regulated turbidity requirement.

Partnership for Safe Water

PARTNERSHIP FOR SAFE WATER®

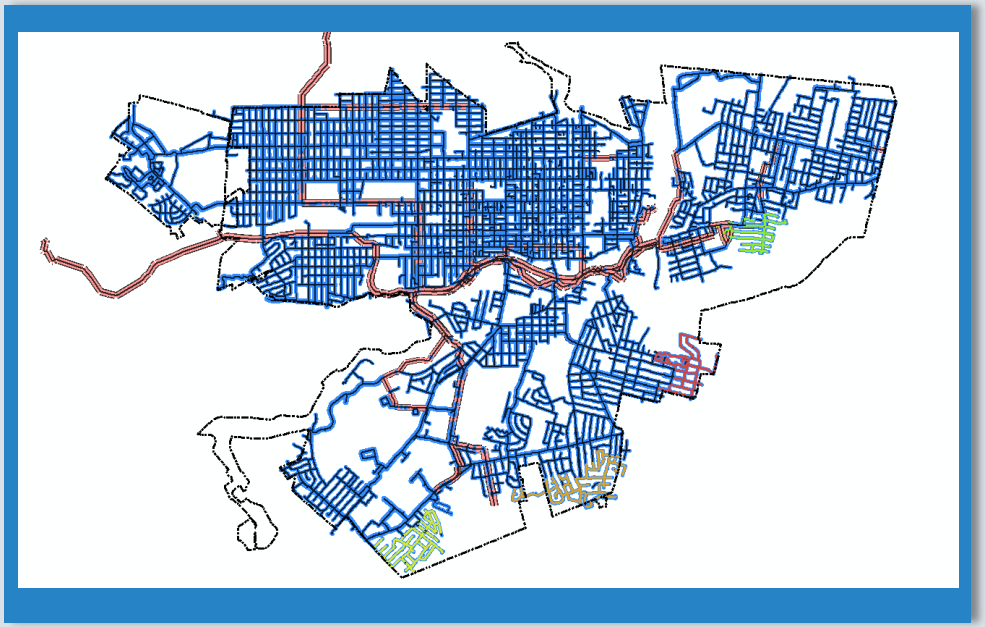
Drinking Water Treatment and Production

NO
Maximum Contaminant Levels were exceeded.

Contaminant Testing

Drinking Water Distribution System

325 Miles of Pipe



33,400 Service connections

8,060 Valves

Drinking Water Distribution System

Drinking Water Distribution System

Hydrants

Inspected

1,533

and

Tested

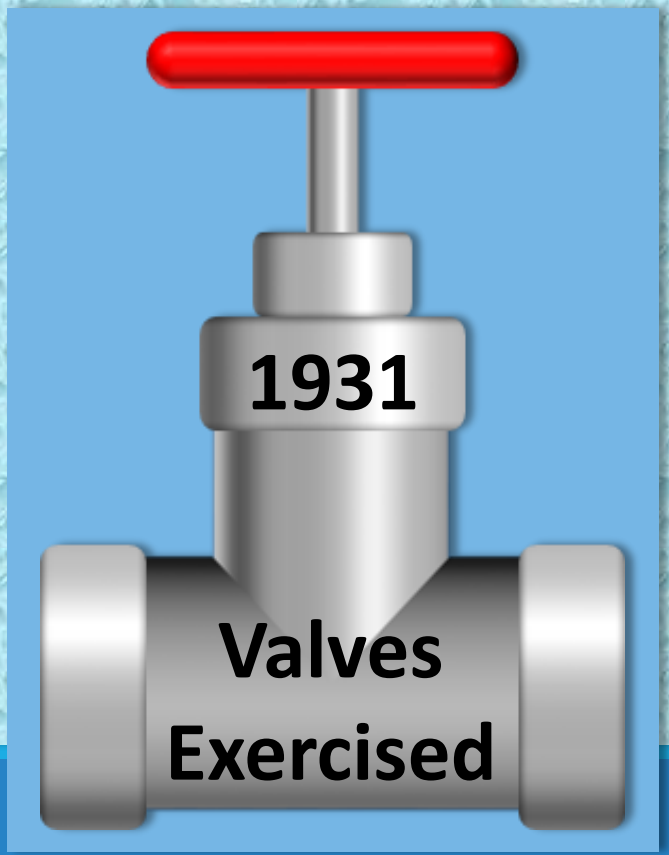
178.55

Miles of Pipe

Checked

for

leaks

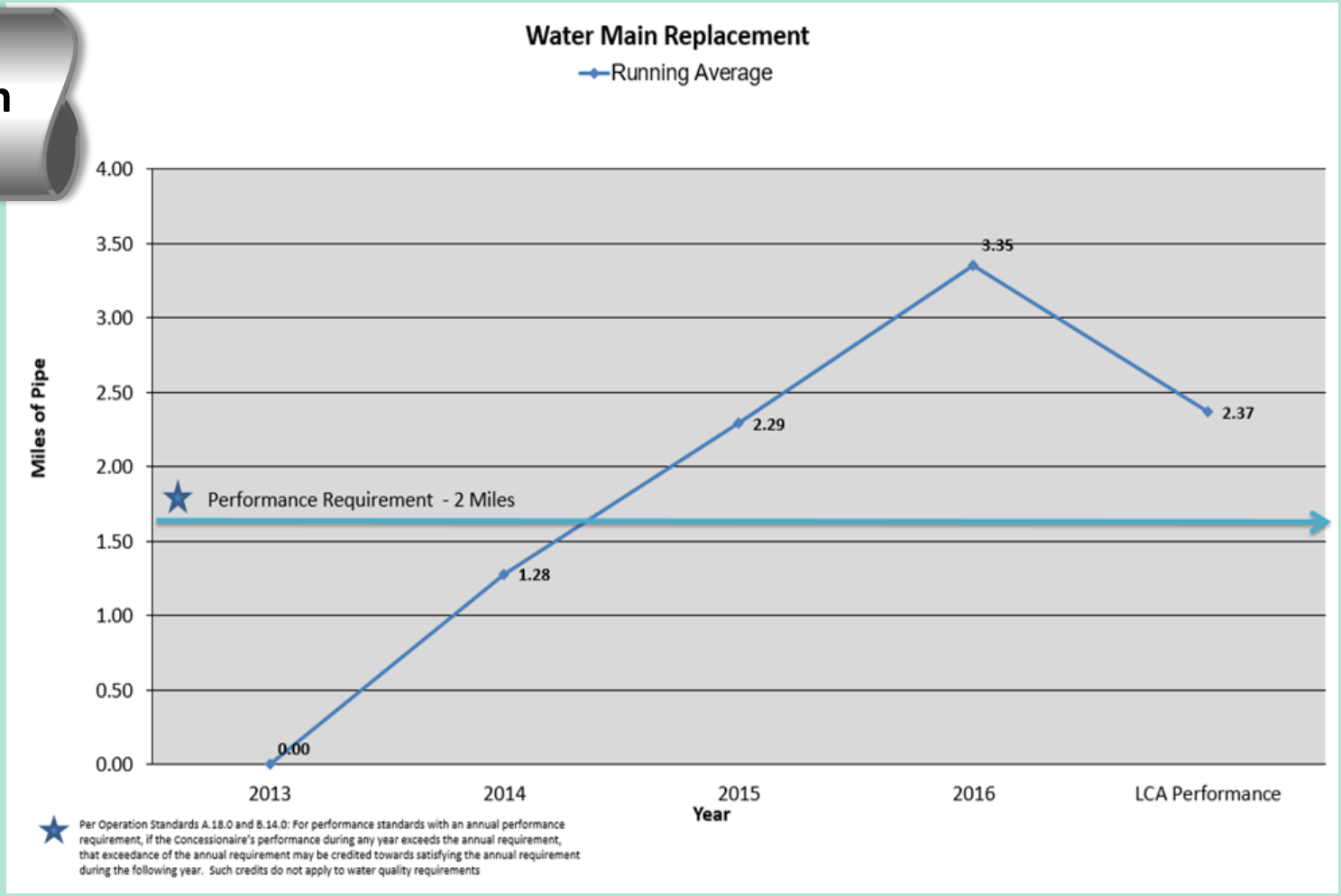


Drinking Water Distribution System

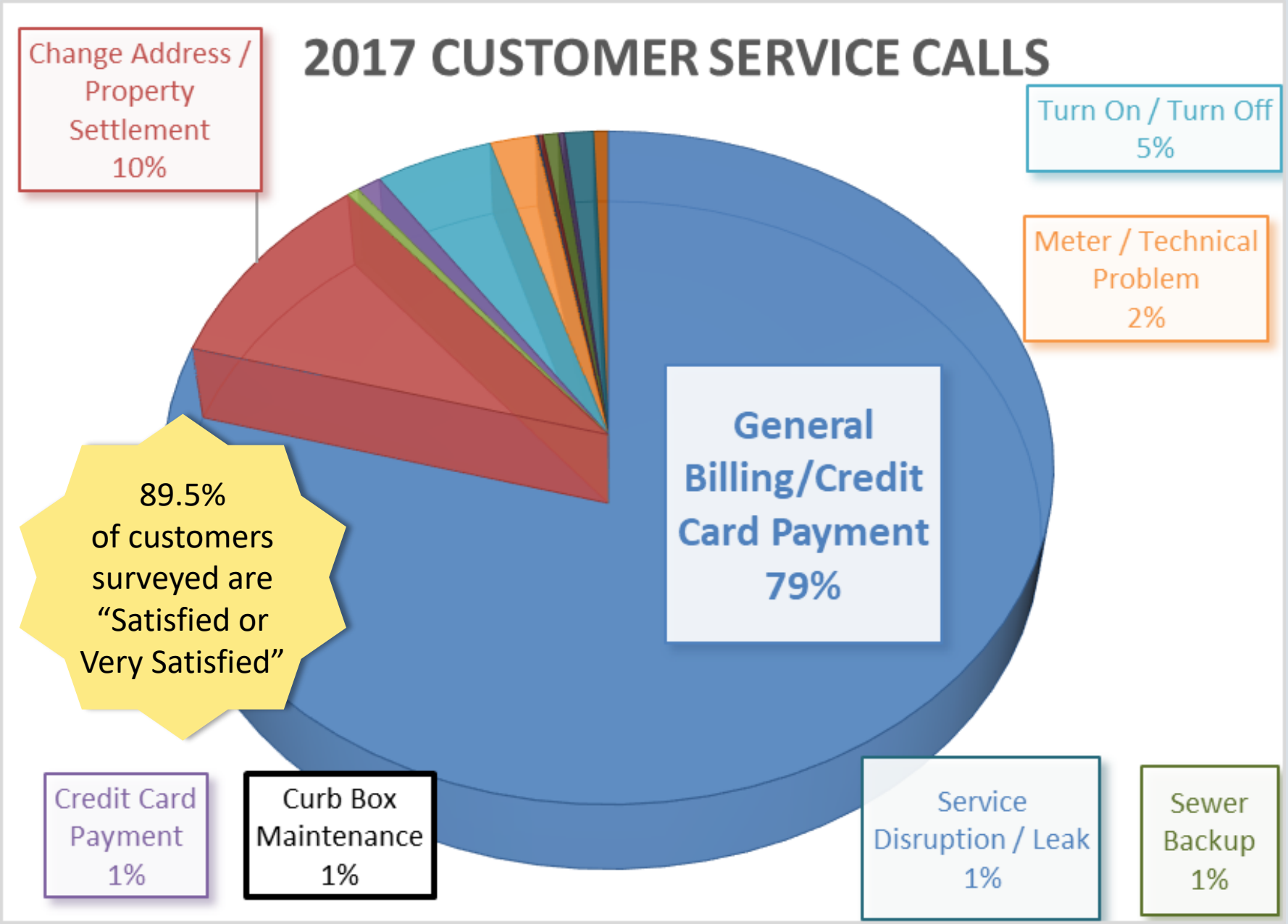
Metrics Update

.9
Miles

of Water Main replaced



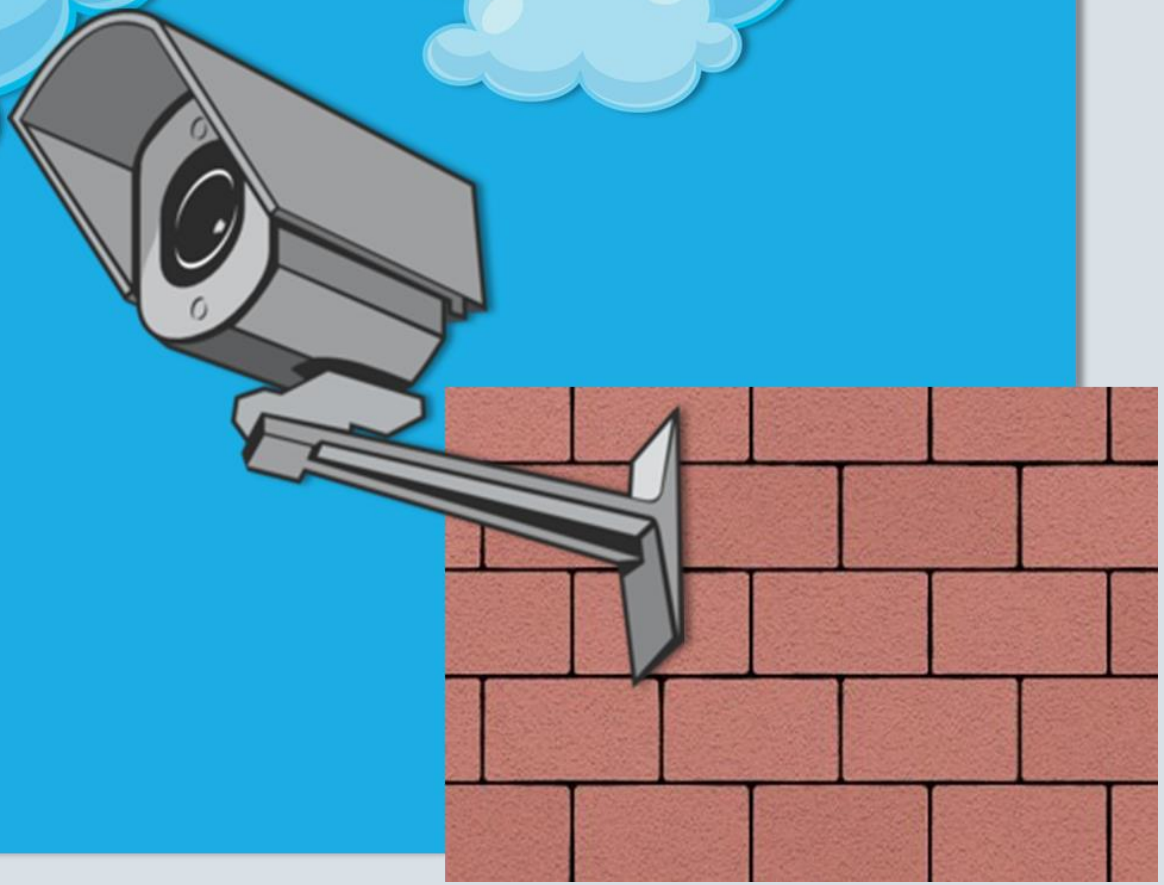
Notices of Violation


2017 CUSTOMER SERVICE CALLS
Change Address / Property Settlement 10%
Turn On / Turn Off 5%
Meter / Technical Problem 2%
General Billing/Credit Card Payment 79%
89.5% of customers surveyed are "Satisfied or Very Satisfied"
Credit Card Payment 1%
Curb Box Maintenance 1%
Service Disruption / Leak 1%
Sewer Backup 1%

Security

A security breach occurred

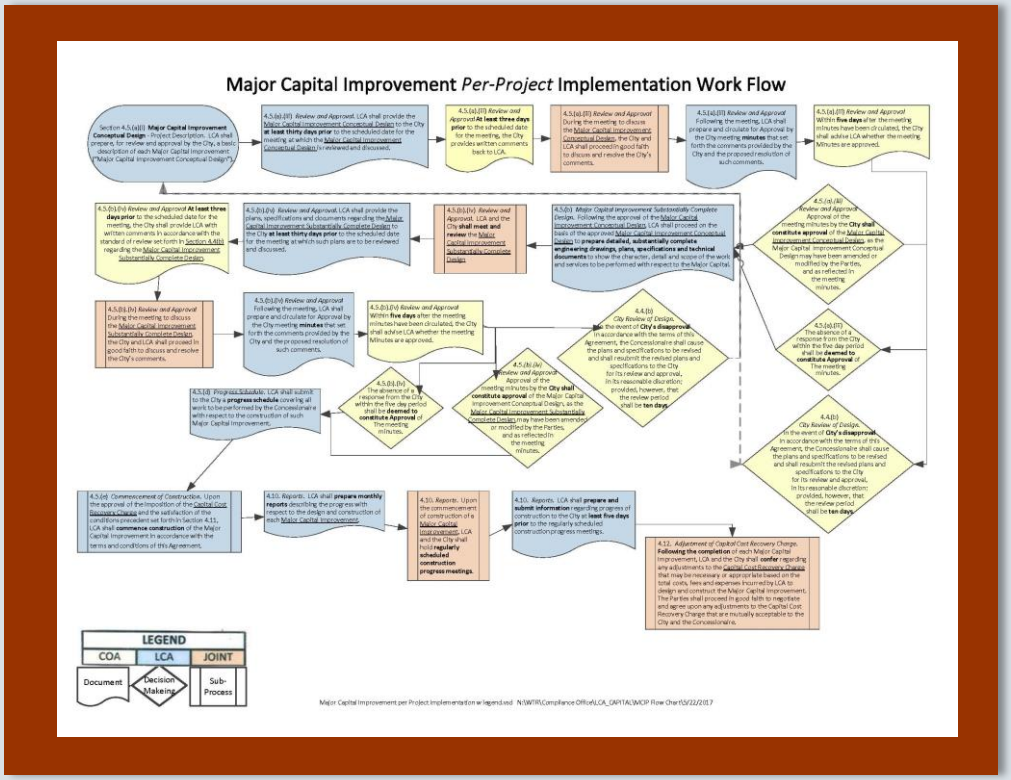
2/23/2017



CAPITAL PROJECTS

"Restoration Work" and "Uncompleted Work" is planned work not completed by the transfer date.

"Required Capital Improvements" "Schedule 7" are Major Capital Improvements required by the Concession Lease Agreement to be completed by Winter 2017.

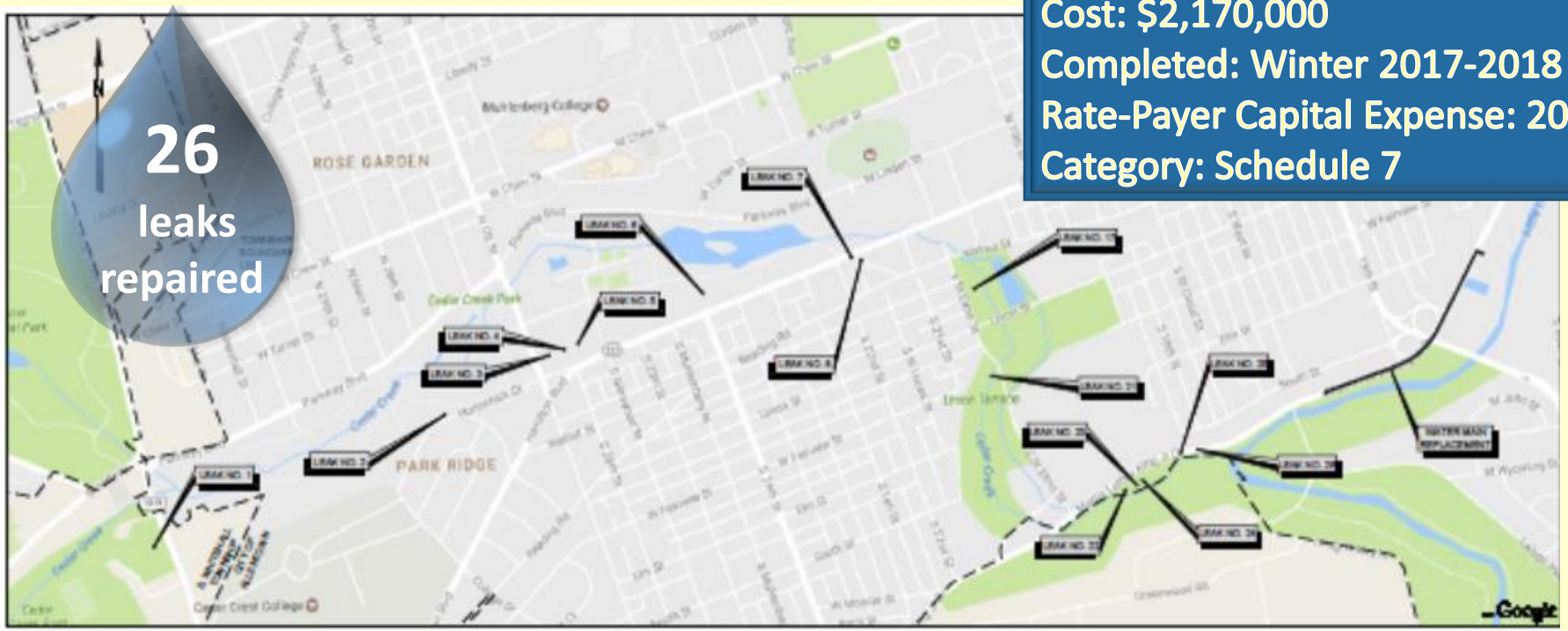


"Administrative Order Projects" Projects planned to comply with the Administrative Orders.

Major Capital Improvements are those projects, approved by the Office of Compliance which cost more than one million + CPIU (Consumer Price Index for Urban).

Water Filtration Capital Projects - 2017

Schantz Spring Water Main Replacement Project



Cost: $2,170,000
Completed: Winter 2017-2018
Rate-Payer Capital Expense: 2019
Category: Schedule 7

Wastewater Treatment Plant Capital Project - 2017

Security Upgrades

Estimated Cost: $283,000
Completed: Fall of 2017
No Rate-Payer Capital Expense
Category: Uncompleted Work

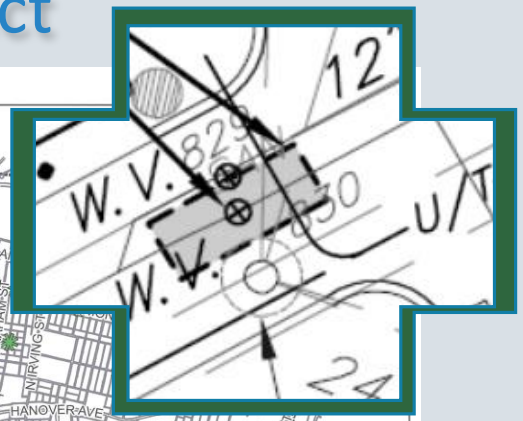
Homeland Security

INFRASTRUCTURE SURVEY
SECURITY & RESILIENCE REPORT

Water Distribution Capital Projects - 2017

Inoperable Valves Replacement Project

Cost: $1,110,000
Complete: Summer 2018
No Rate-Payer Capital Expense
Category: Uncompleted Work



Replacing 55 inoperable valves in multiple locations throughout the City.

Wastewater Treatment Plant Capital Project - 2017

Primary and Secondary Digesters

Replaced anaerobic floating covers

Estimated Cost: $2,296,228
Completed: Fall of 2017
Rate-Payer Capital Expense: 2019
Category: Schedule 7

Administrative Order Projects - 2017

Sanitary Sewer Manhole Rehabilitation

Cost: $60,090
Complete: Summer 2017
Rate-Payer Capital Expense - Bond
Category: Administrative Order

10 manhole structures were rehabilitated

QUESTIONS