

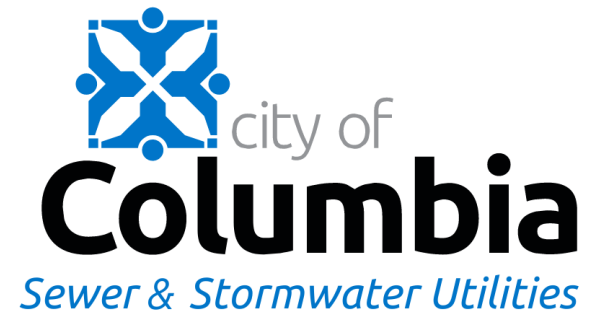
# Columbia's Wastewater and Stormwater Integrated Management Plan

Phase 2 Vision and Update Approach

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JULY 2024

<https://www.como.gov/utilities/sewer/sewer-imp/>

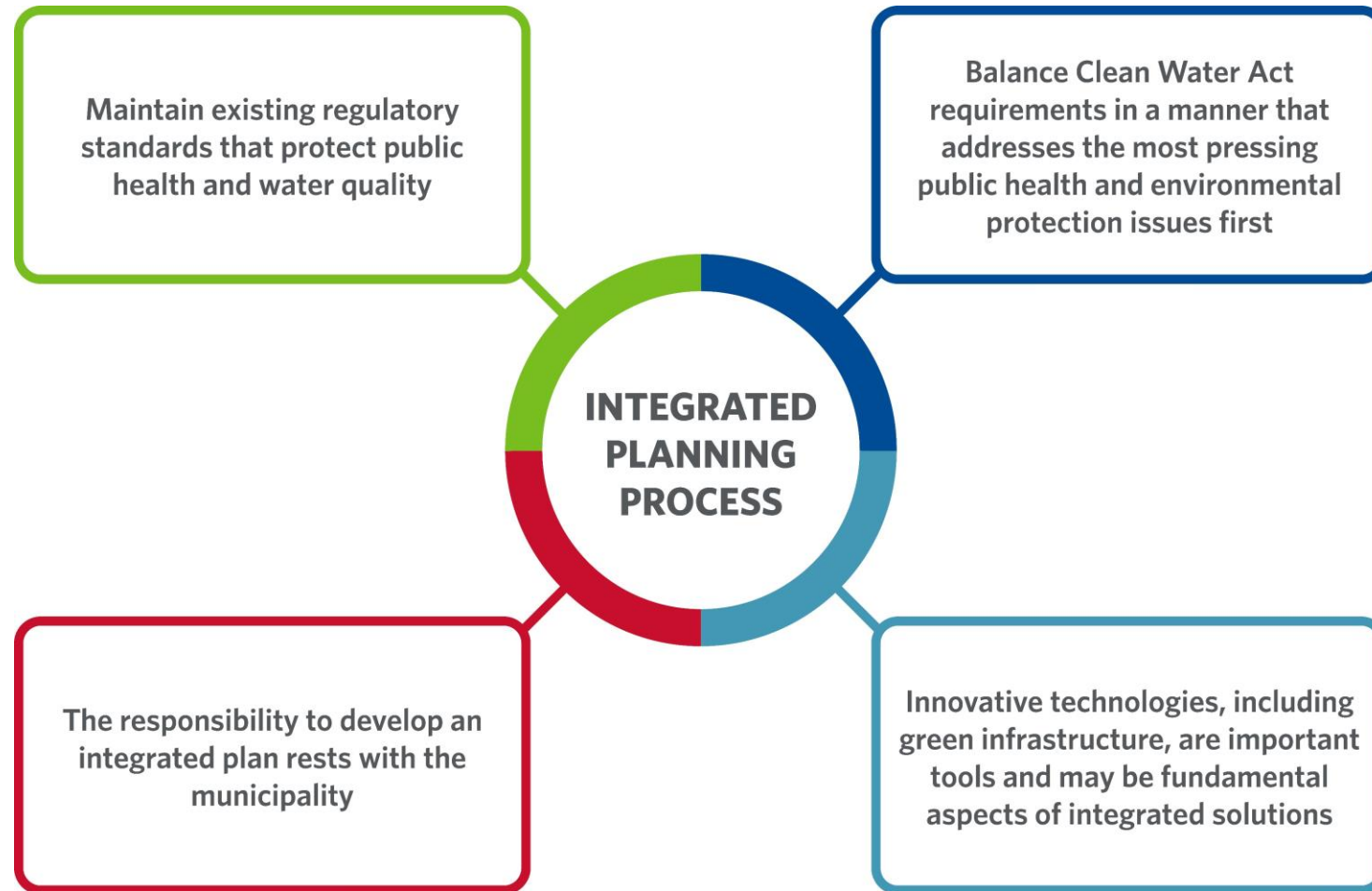


# Columbia Faced Significant Infrastructure and Regulatory Challenges before 2019

- Draft Administrative Order
- Columbia Wastewater Treatment Plant NPDES Renewal
  - Ammonia
  - Bacteria
- Bacteria Total Maximum Daily Load
- Aging Infrastructure



# Clean Water Act Integrated Planning Framework Provides an Approach for Prioritizing Infrastructure Investments



# The Integrated Planning Framework is Adaptive and Supports Periodic Plan Updates

20  
YEAR

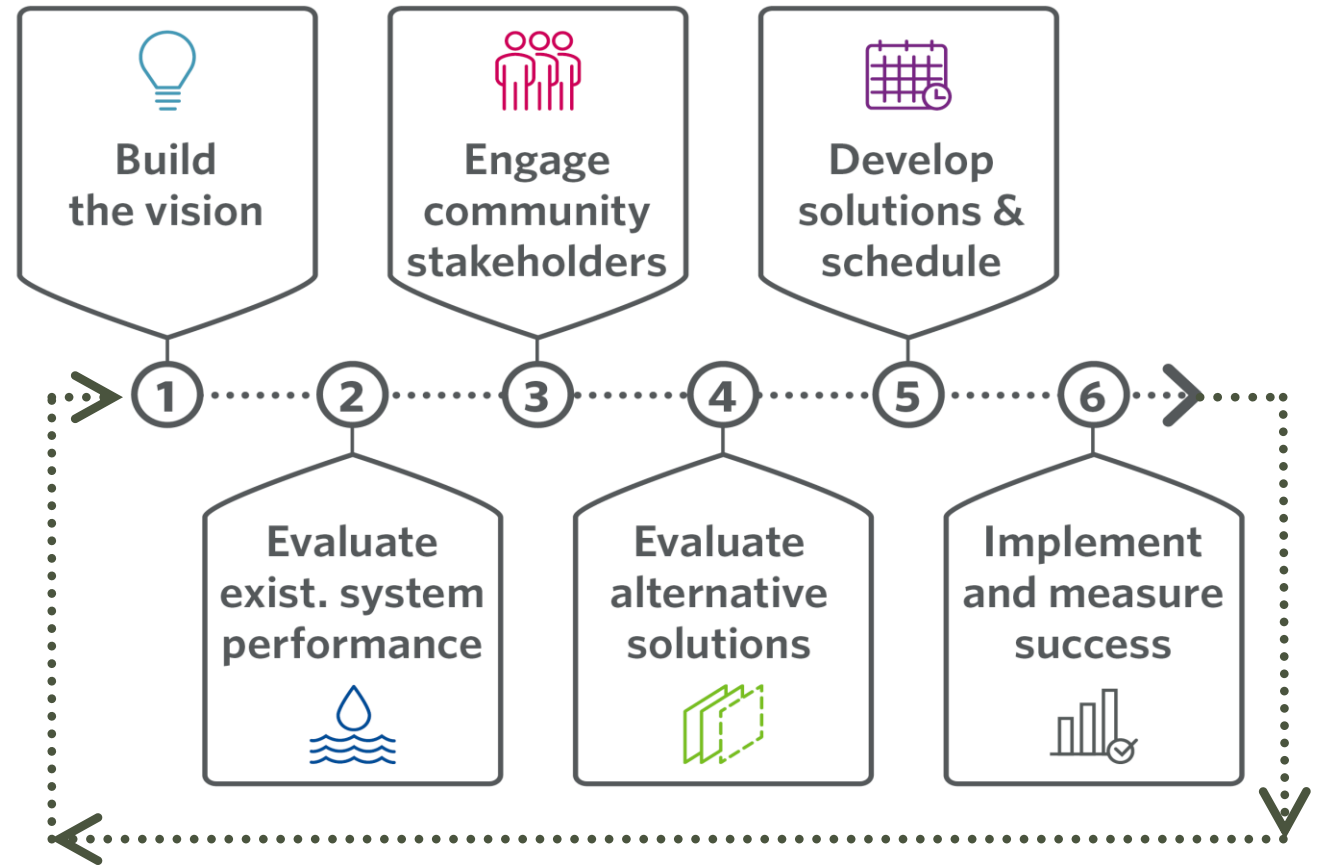
[Investment  
Schedule](#)

5  
YEAR

[Action Plan &  
Implementation Guide](#)

1  
YEAR

[Annual Report](#)



# The City's 5-Year Action Plan Provides a Roadmap for Long-term Success

- 5-Year IMP Action Plan Identifies:
  - Goals
  - Anticipated Actions
  - Targeted Community Benefits
- The City delivered on the first 5-Year IMP Action Plan
- Currently developing the second 5-Year IMP Action Plan

Columbia 5-Year IMP Action Plan <sup>1</sup>			
Program or Project <sup>2</sup>	Goal	Anticipated Actions	Targeted Community Benefits <sup>3</sup>
<b>Stormwater Management</b>			
<b>MS4 Program Enhancements*</b>	Enhance Public Education and Outreach, Illicit Discharge Detection and Elimination, and Construction Site Stormwater Runoff Control to reduce bacteria, sediment, and trash discharges.	<ul style="list-style-type: none"> <li>• Continue to develop and distribute public education messages as outlined in the Stormwater Management Plan.</li> <li>• Hire technician to support MS4 program with focus on IDDE.</li> <li>• Conduct streamwalks and outfall inspections in all City streams within 5-year action plan period.</li> <li>• Develop map of stormwater outfalls.</li> <li>• Update Erosion and Sediment Control Manual and policies and procedures.</li> <li>• Continue to work with MS4 partners to effectively implement stormwater management program, particularly Minimum Control Measure #4.</li> <li>• Continue to work with MS4 partners to implement CAM program to improve Hinkson Creek water quality.</li> </ul>	<ul style="list-style-type: none"> <li>• Improved water quality in City streams</li> <li>• Protect important regional waterbodies</li> <li>• Progress towards meeting Clean Water Act requirements</li> <li>• Reduced safety hazards from system failures</li> <li>• Reduced pathogen exposure</li> </ul>
<b>System Renewal</b>	Implement renewal program to address failing corrugated metal pipe (CMP) and structures beyond physical effective life.	<ul style="list-style-type: none"> <li>• Initiate renewal activities as resources and funding allow.</li> <li>• Secure additional funding to implement these actions.</li> </ul>	<ul style="list-style-type: none"> <li>• Renew systems beyond effective life</li> <li>• Improved water quality in City streams</li> <li>• Protect important regional waterbodies</li> <li>• Reduced safety hazards from system failures</li> </ul>

# Columbia's Phase 1 (2020 – 2025) Integrated Management Plan (Phase 1 Plan) Goals

- Meet multiple demands with limited resources
- Align investments with community priorities
- Deliver effective wastewater & stormwater operations
- Improve water quality and meet regulatory requirements



# Columbia's Phase 1 Integrated Management Plan

## Wastewater Treatment Priorities

- Constructed Wetlands Maintenance
- Wet Weather Improvements
- Nitrification Capacity
- Nutrient Removal
- Chemical Disinfection
- Biosolids Improvements



Wastewater  
Treatment

# Columbia's Phase 1 Integrated Management Plan

## Wastewater Collection Priorities

- Sewer Overflow Reductions
- System Renewal
- Private Collectors
- Building Backup Reductions
- Regional Service
- Maintenance



**Wastewater  
Collection**



# Columbia's Phase 1 Integrated Management Plan

## Stormwater Management Priorities

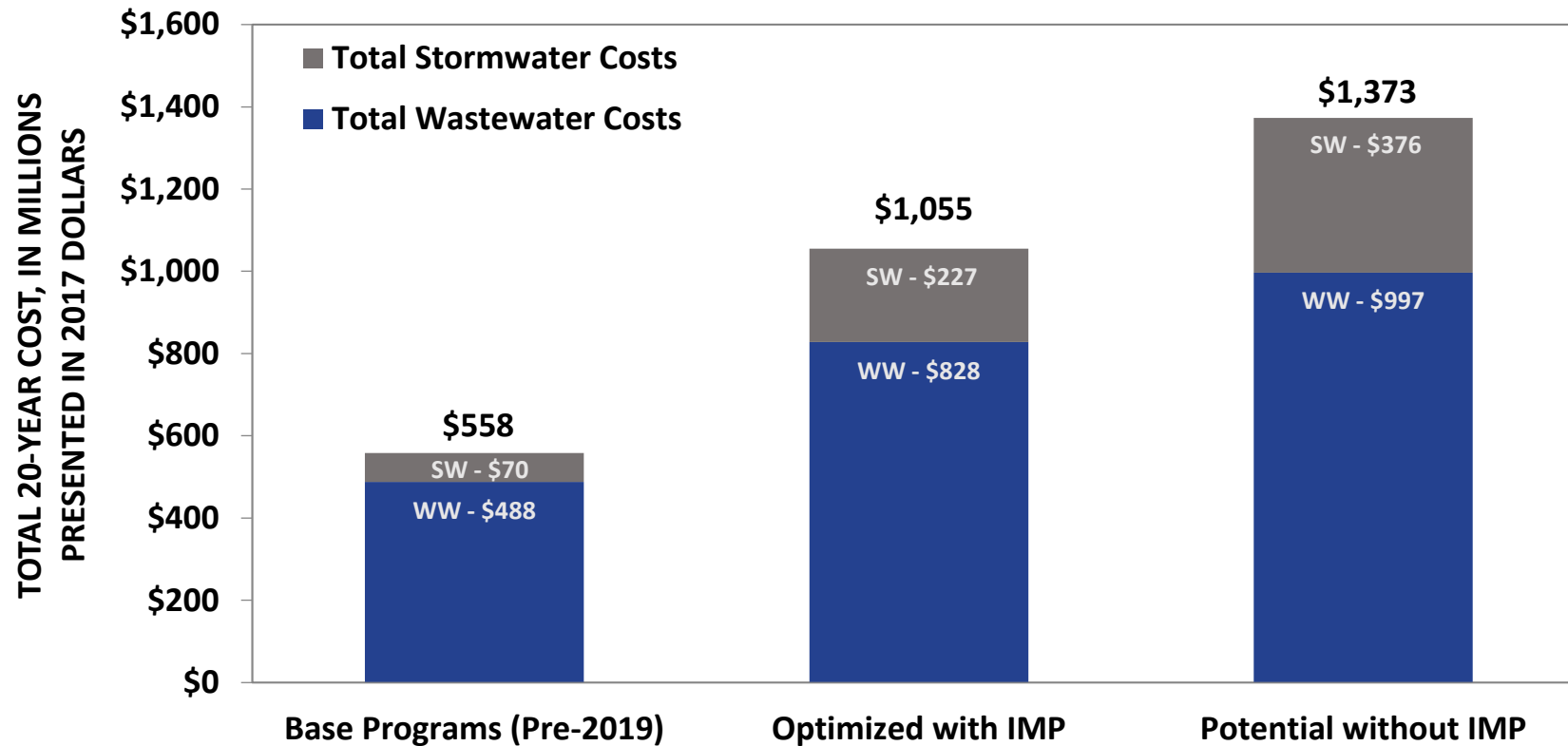
- System Renewal
- System Assessment
- Flood Management
- Runoff Treatment
- Stream Erosion
- MS4 Programs



**Stormwater  
Management**

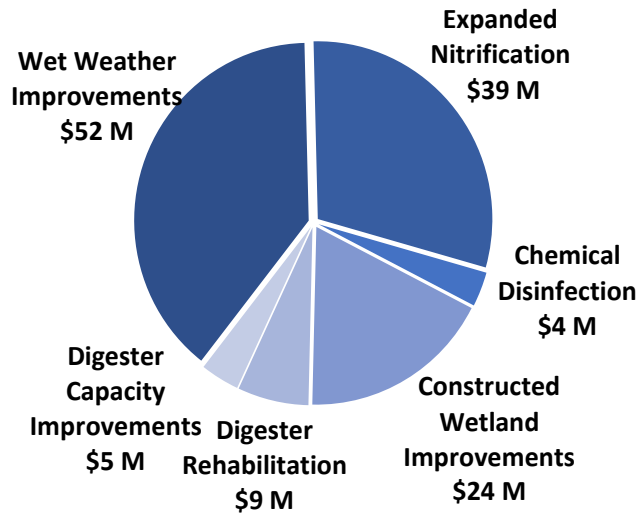
# The IMP Reduced Potential Compliance Costs and Addresses Needs over the Next 20 Years

**WASTEWATER & STORMWATER**  
**TOTAL 20-YEAR PLANNING COSTS, IN 2017 DOLLARS**



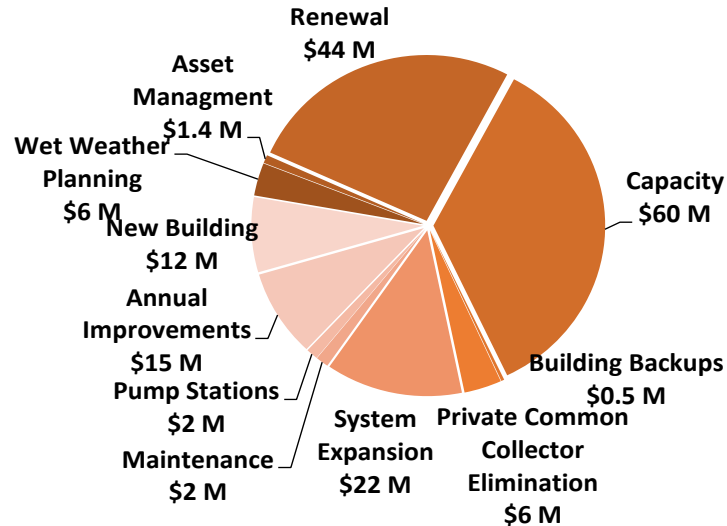
# The Optimized IMP Alternative Includes Investments to Address New Infrastructure and Community Needs

## Wastewater Treatment



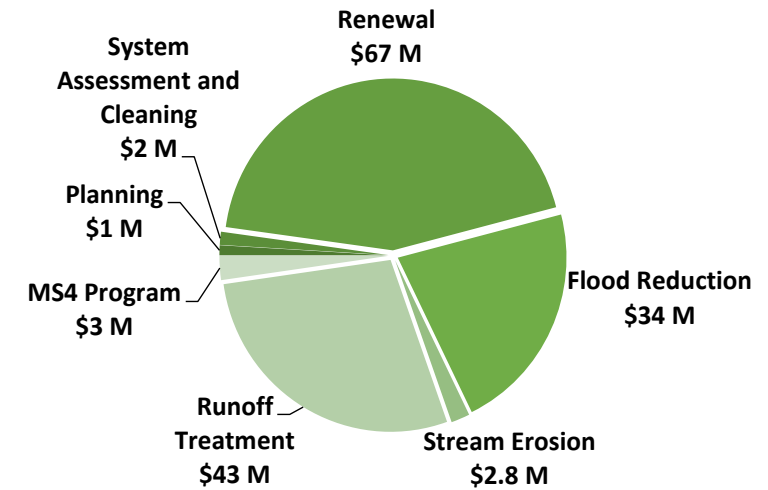
**\$132 Million**

## Wastewater Collection



**\$170 Million**

## Stormwater Management



**\$154 Million**

# The Phase 1 Plan Received Unanimous Approval by City Council (12/3/2018)



**“Thank you for an impressive report. You’ve thought of all of the issues and I hope that we can move forward with it.”**



**“I think this whole process has been excellent.”**



**“The optimization approach is great because it aligns with our community priorities and highlights underfunding in the stormwater system.”**



**“The community and stakeholder engagement piece was authentic and well done.”**



**“I appreciate the process that was used and the outreach with the community...we’re going to have to pay for necessary improvements and this plan will help support that.”**

# The Phase 1 Plan is Memorialized in the City's Wastewater Discharge Permit and Stormwater Permit (MS4)

- MDNR considers the Phase 1 Plan in current and future regulatory decisions
- Annual updates and communication with the regulatory agencies when the plan changes
- If the City does not make reasonable progress with identified actions, MDNR's support for the IMP will cease



# We Have Delivered on Our Phase 1 Commitments



**Top Left:** Wastewater Treatment Plant Improvements — Digester Rehabilitation

**Top Right:** MS4 Program Enhancements — MDNR Tour of Best Management Practices

**Bottom Left:** Wastewater Collection Improvements — Sewer Pipe Rehabilitation

**Bottom Right:** Stormwater Improvements — North Garth Ave. Flood Management

# Phase 1 Plan Outcomes benefit the City and Environment



**ASSESS** condition of system, the next step of asset management



**FOCUS** limited funding on renewal of existing system



**IMPROVE** existing systems to benefit water quality



**ENHANCE** public support by making meaningful and cost-effective improvements

# Vision for the Phase 2 Plan Update



Consider New and Evolving  
Regulatory Drivers



Reassess Phase 1  
Projects and Priorities



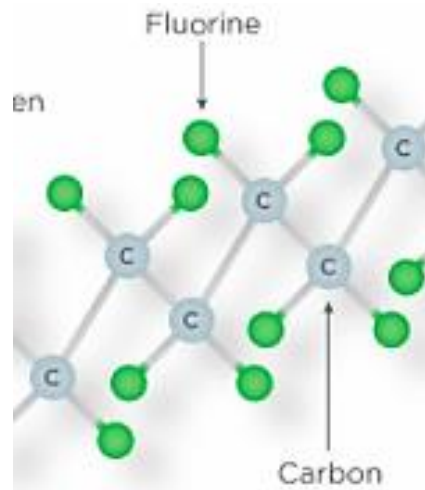
Incorporate New High  
Priority Projects



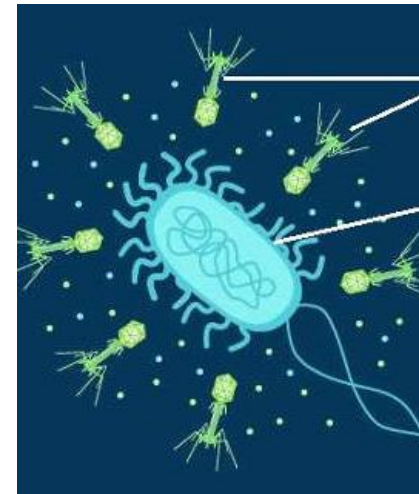
# Consider New and Evolving Regulatory Drivers



**Nutrient Reductions**  
(Phosphorus and Nitrogen)



**PFAS and other Emerging Contaminants**



**Recreational Water Quality Criteria**



**Revised Ammonia Criteria**

# Incorporate New High Priority Projects



## Treatment

- Biosolids treatment evaluation and expansion
- Wetlands maintenance plan
- Facilities asset management



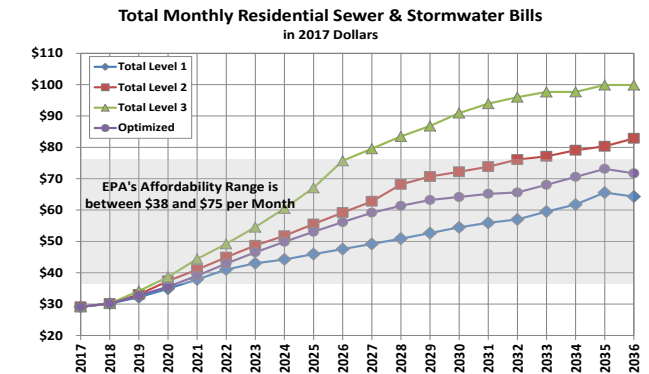
## Collection

- Targeted flow monitoring and I/I reductions
- Asset management software implementation and coordination across departments
- Sewer hydraulic model refinement
- Continued rehabilitation of system infrastructure



## Stormwater

- Flood Management Improvements
- Design manual updates
- MS4 program updates
- Continued rehabilitation of infrastructure



## Financial

- Cost of service study
- Update short (5-year) and long (20-year) term capital projections and rate impacts
- Incentivize private inflow and infiltration work

# Community Input will Continue to Inform Phase 2 Planning Priorities



Environmental Objectives



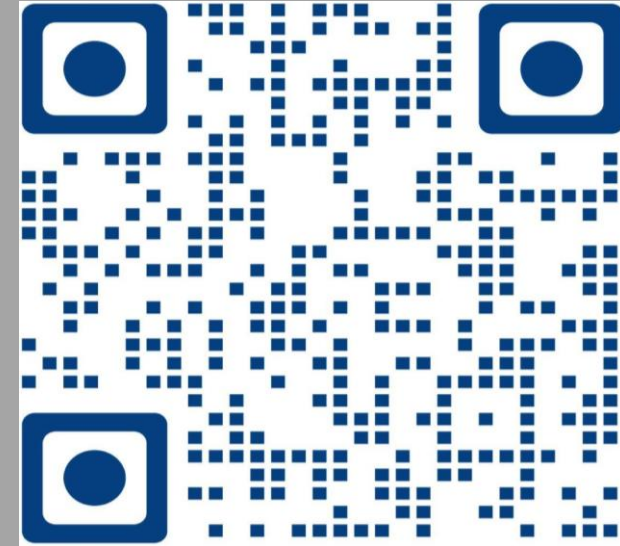
Social Objectives



Economic Objectives

- ✓ Protect Public Health and Safety
- ✓ Improve Quality of Life
- ✓ Improve Water Quality in City Streams
- ✓ Achieve Regulatory Compliance
- ✓ Provide Sustainable Services for the Future

Please take our survey!



[CoMo.gov/IMPsurvey](https://CoMo.gov/IMPsurvey)

Integrated Management Plan Open House

August 21, 2024

5:30 – 7:30

ARC, 1701 West Ash

# Phase 2 Integrated Management Plan Project Timeline

- **Now – September 2024:** Public survey seeking input

## Anticipated Council Updates and Requested Actions

- **August 2024:** Project introduction and progress update
- **October 2024:** Progress update
- **December 2024:** Approve and adopt Phase 2 Plan

Project Task	April	May	June	July	August	September	October	November	December
Build the Vision	█	█							
Evaluate System Performance			█	█					
Community Outreach		█	█	█	█				
Identify Project Alternatives			█	█	█				
Prioritize and Schedule Projects						█	█		
Develop Phase 2 Plan							█	█	█
Agency Coordination				█		█			█