City of Columbus
Division of Sewerage and Drainage
September 27, 2023

Robert S. Priestas, P.E., Administrator

THE CITY OF
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ANDREW J. GINTHER, MAYOR

DEPARTMENT OF
PUBLIC UTILITIES

Agenda

1. DOSD Overview
2. Consent Order Update
3. New Initiatives
4. Utility Planning and Growth
5. 6 Year CIP Investment
7. Look ahead

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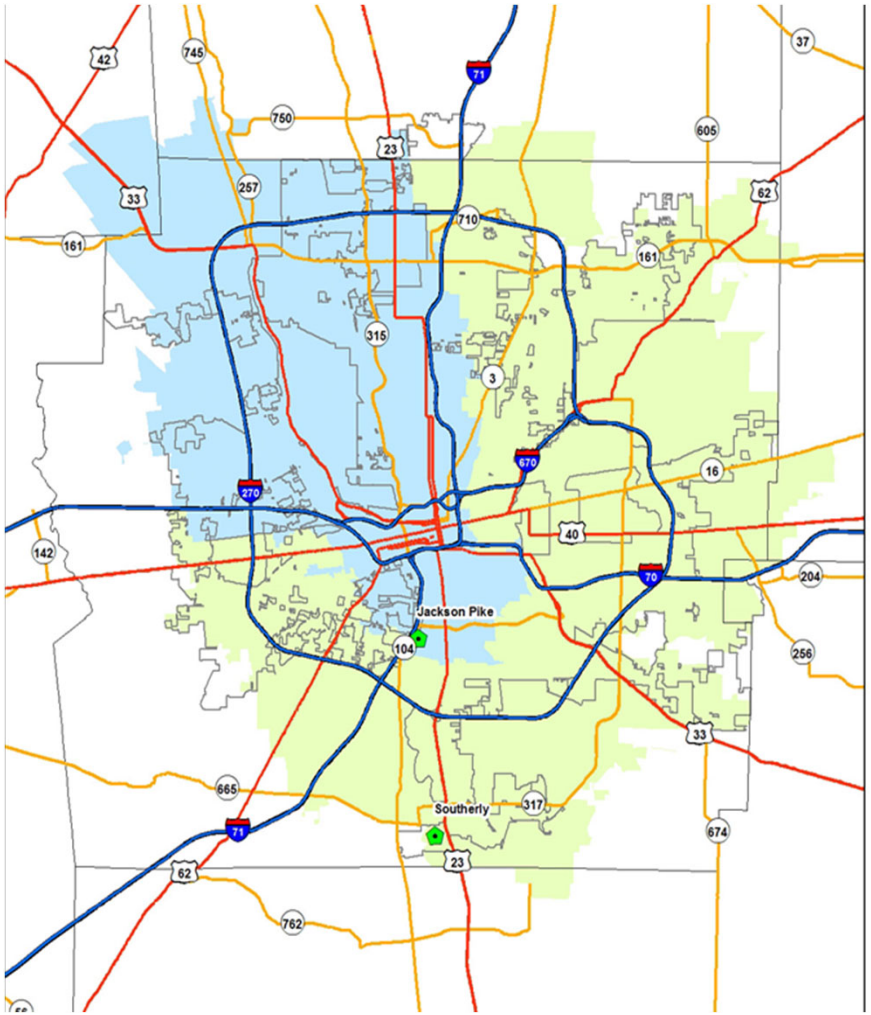
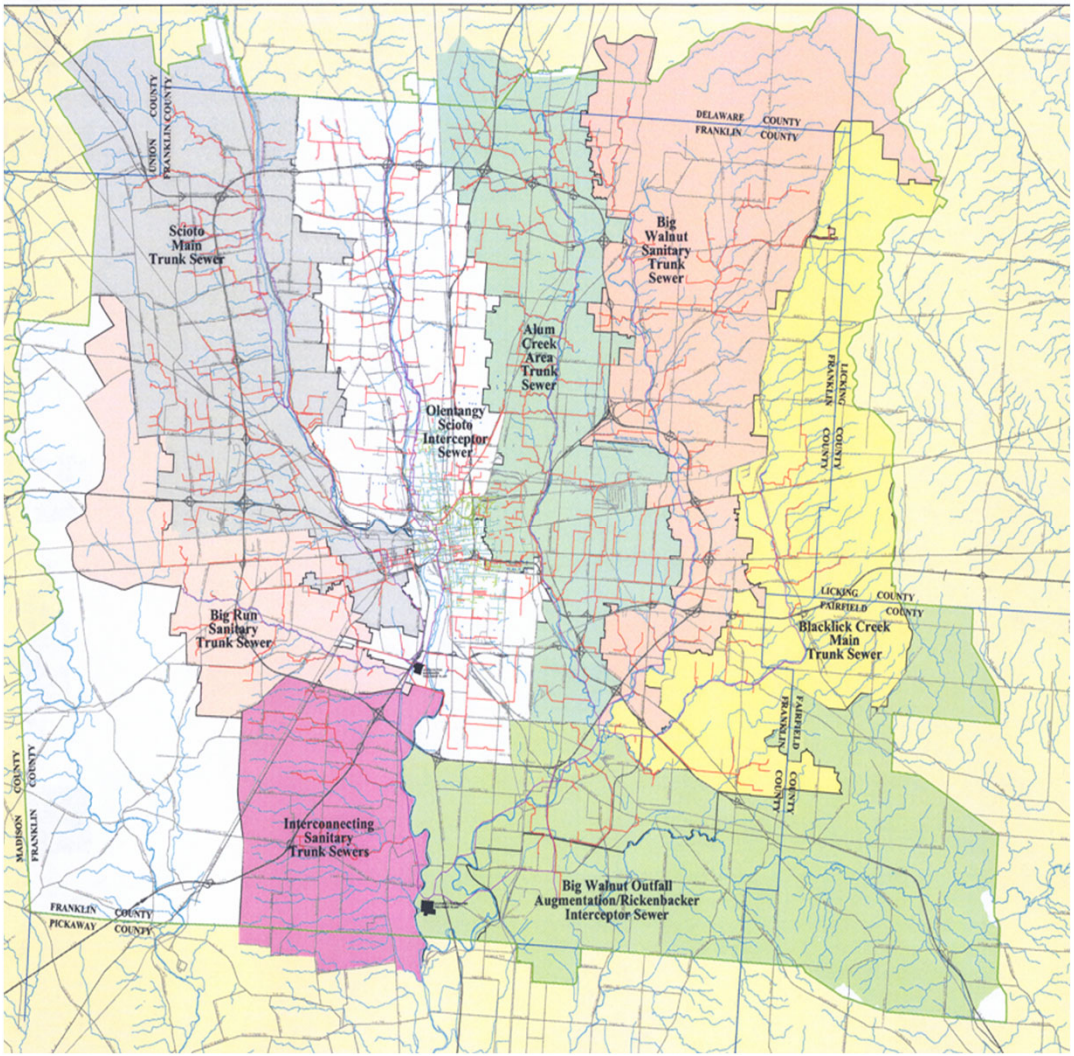
Division of Sewerage & Drainage

- Franklin and into 5 surrounding Counties
- Two treatment plants
  - **Jackson Pike** (150 mgd peak)
    - ~45% of Total Annual Treated Flow
  - **Southerly** (440 mgd peak)
    - ~55% of Total Annual Treated Flow
- Composting Facility



Division of Sewerage & Drainage

- Roughly **4,900** miles of sanitary, combined, and storm pipes (Columbus Only) 6,500 including our CSA's.
- **16** sanitary pump stations
- **15** storm pump stations
- **7** Air Quality Control facilities
- Franklinton Floodwall



Consent Order Update

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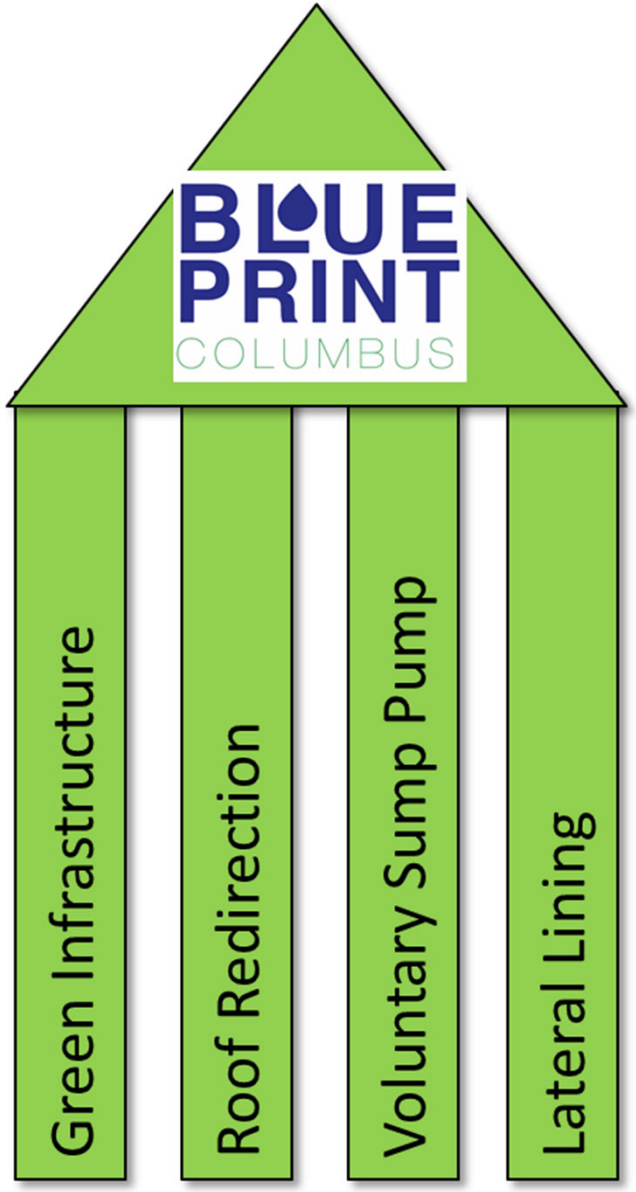
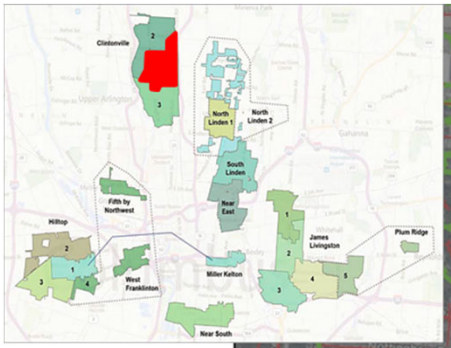
Blueprint Plan

- Core Changes from the WWMP
  - Blueprint Neighborhoods
    - 4 Pillar Approach
  - Chemically Enhanced Primary Treatment (**CEPT**)
    - **Substantially Completed in 2021**
  - Lower Olentangy Tunnel (**LOT)**
  - Real Time Control (**RTC**)
- Combined Sewer Overflow (CSO) projects from the WWMP generally remained



Blueprint Clintonville 1

- Completed in 2021
- 997 acres, 3000 homes
- Green Infrastructure
  - **All 6** projects completed
  - **415** rain gardens constructed
  - **4** Blocks of Pervious Pavers
- Sump Pump Program
  - Over **614** sump pumps installed (22%)
- Lateral Lining
  - **2370** laterals lined (over 90%)
- Downspout Redirection
  - **1827 Homes** with redirected downspouts
- Total $78 million



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Blueprint Clintonville 1

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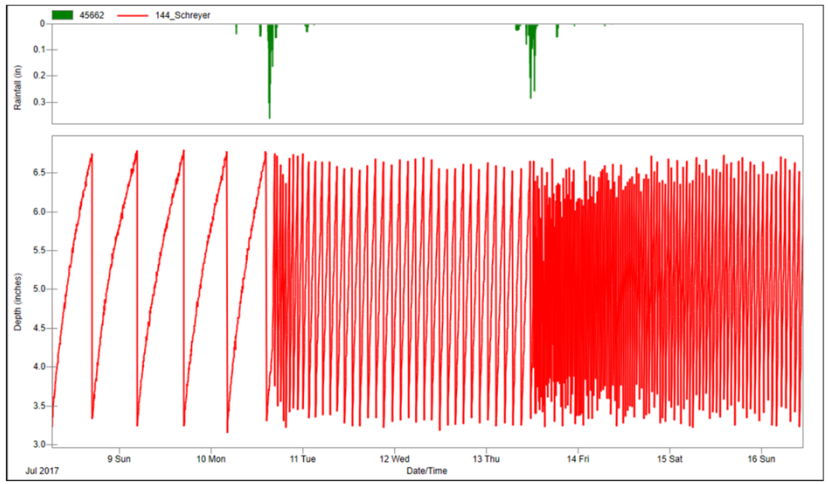
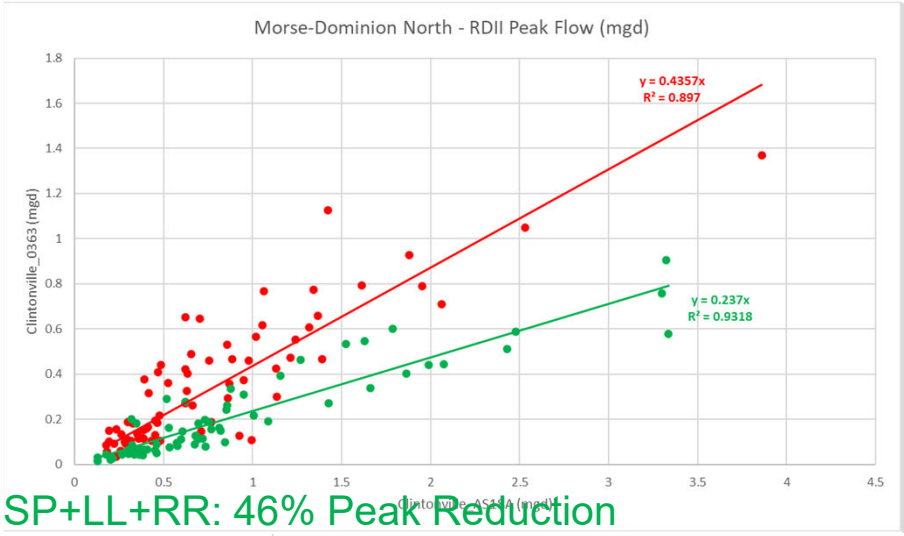
Pre- and Post-Blueprint Monitoring

- Verify the effectiveness of I/I reduction
  - Flow meters in sanitary sewers
  - Level sensors in sump pump pits
- Monitoring Clintonville 1 and North Linden 1
- Monitoring Period (2015-present)

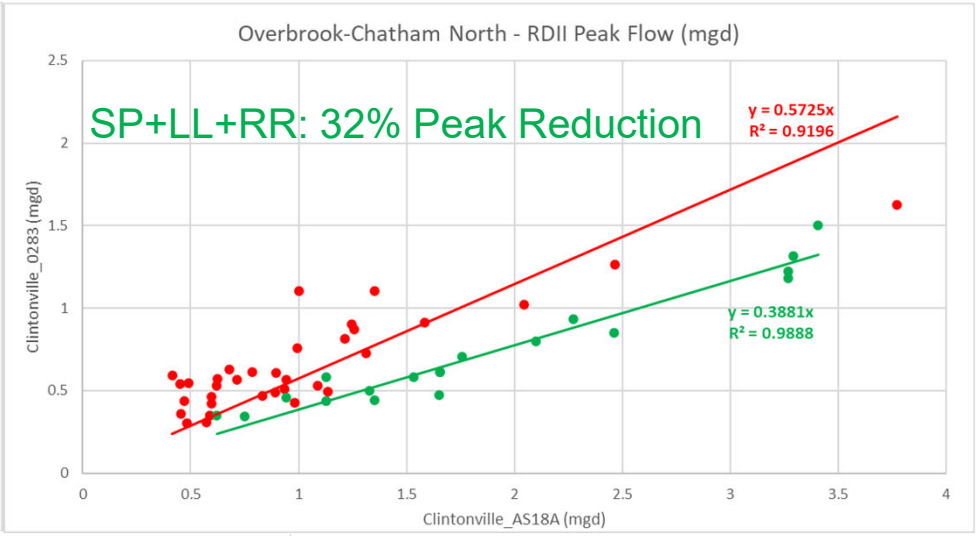


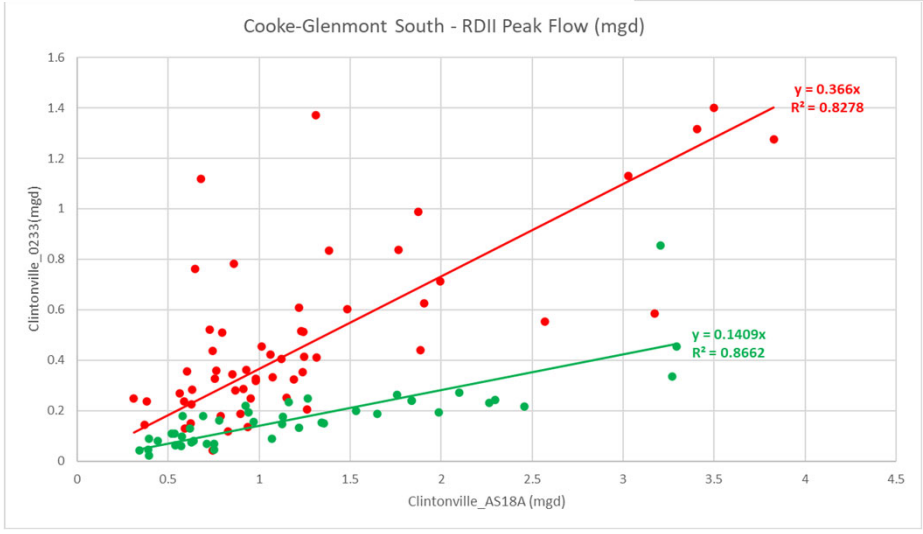
Effectiveness of I/I Reduction – Clintonville 1

- Achieved median and average of 46% I/I reduction



SP+LL+RR: 46% Peak Reduction





SP+LL+RR: 62% Peak Flow Reduction

Blueprint North Linden 1

- Active construction since 2019
- 863 acres, 3500+ homes
- Green Infrastructure
  - **3 of 4 sub areas** projects complete
  - **62** rain gardens constructed
  - **13 regional bioretention basins**
- Sump Pump Program
  - Over **390** sump pumps installed
- Downspout Redirection/lateral lining
  - **More than 400** laterals lined
- To be completed by Dec. 2025

Blueprint North Linden 1

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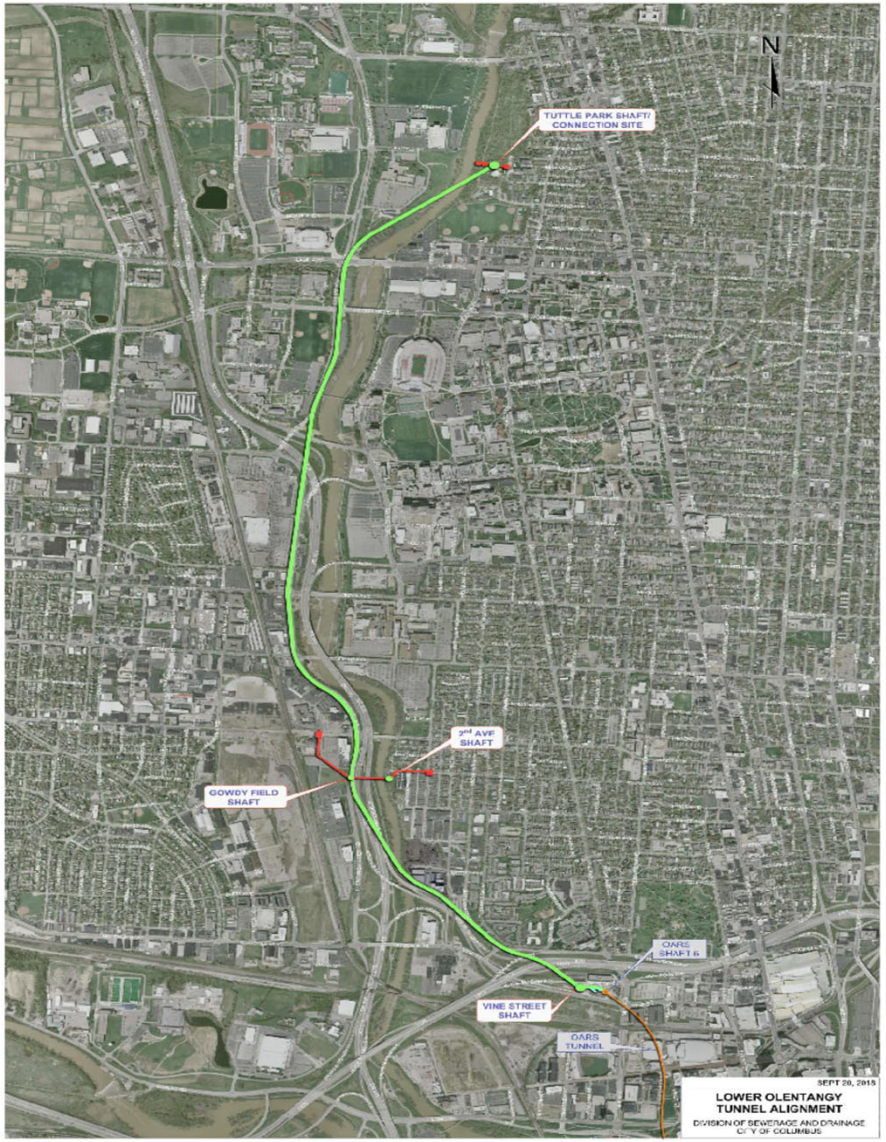
Other Blueprint Areas

- Hilltop and Fifth by Northwest
  - GI construction in 2023
- Clintonville 3, Miller/Kelton, Near South, Livingston/James 5, Plum Ridge
  - Various stages of design

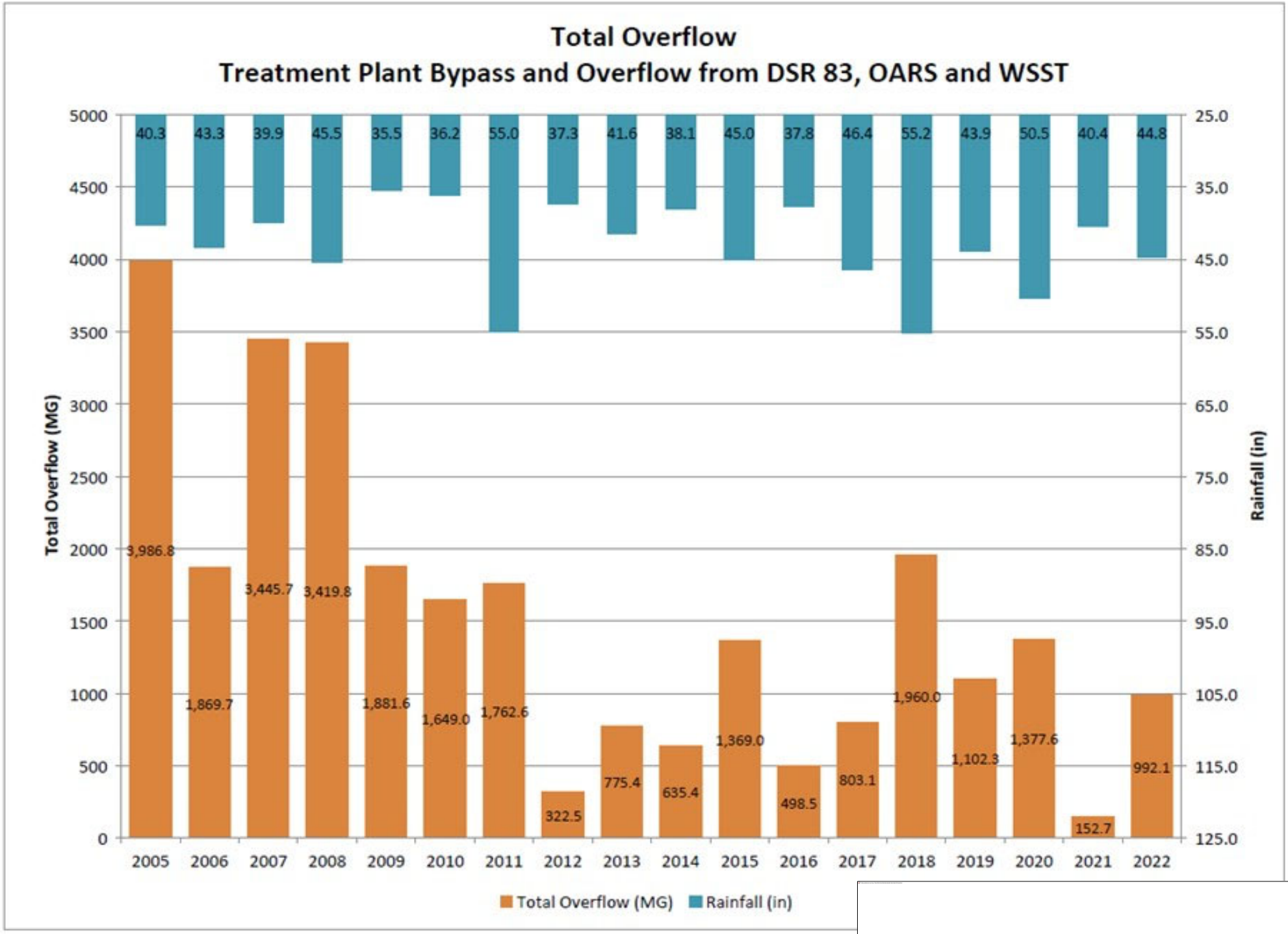
CSO Program

Lower Olentangy Tunnel (LOT)

- 17,000 LF of 12-foot diameter sewer via tunnel boring machine through soft-ground, mixed-face conditions and rock.
- Construction includes shafts, diversion structures, microtunnel and relief structures.
- Notice to Proceed issued to Granite Construction on 3/2/21
- Awarded Contract Amount of $268 Million
- Final Completion Date of 12/31/26



CSO Program – Lower Olentangy Tunnel (LOT)



3/31/2023 Total Overflow Chart 2022

Utility Planning and Growth Outlook

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Department Strategic Planning

- Utilizing the Effective Utility Management framework
  - ➢ What do we know to be true today?
  - ➢ What do we hope will be true in the future?
  - ➢ What must go well in order to reach our desired future?
- Focus on 10 key Attributes:

Columbus Public Utilities

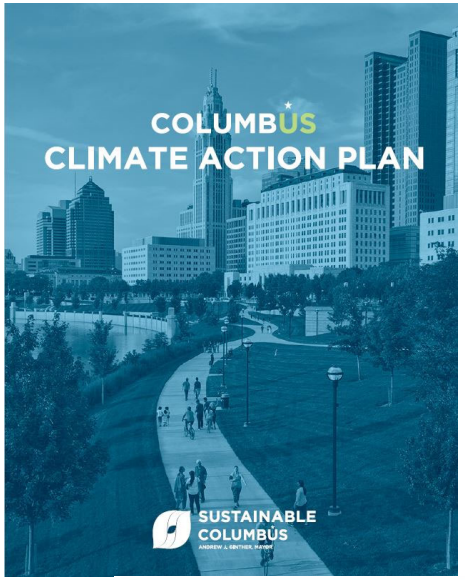
OPERATIONAL REVIEW AND STRATEGIC PLANNING FLOW CHART & TIMELINE (DRAFT)

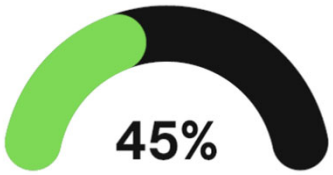
LAUNCHING AND MANAGING THE PROJECT	STAKEHOLDER ENGAGEMENT	EUM 360 SCAN	ORGANIZATIONAL AND OPERATIONAL REVIEW	FOUNDATION PHASE	STRATEGY PHASE	STRATEGIC PLAN DELIVERABLES	STRATEGIC PLAN IMPLEMENTATION
Activities • Meet with Leadership Team to discuss: – Charter – Participants – Process – Scheduling – Key external trends • Conduct DPU Leadership Team interviews	**Activities** • Develop a stakeholder engagement plan • Perform one-on-one interviews with key staff • Perform employee focus group sessions • Develop and deploy an employee survey • Perform outside stakeholder interviews and/or focus groups • Perform interviews with elected or appointed governing body members • Develop Sense of Stakeholder deliverable	**Activities** • Prepare for EUM kick-off workshops • Conduct EUM workshops for five DPU teams • Receive and validate EUM 360 data from DPU Teams	**Activities** • Build on the EUM 360 Scan by engaging DPU's Core Team to review org. structure, staffing, and performance data • Assess the current state of the functional areas being reviewed • Compare DPU's organization and operation to industry best practices and peer utilities • Enhance DPU's current state through specific recommendations	**Activities** • Debrief stakeholder engagement and organizational / operational review • Facilitate Foundation Phase 1 Workshop to develop: – Vision – Mission – Values – Goal Areas • Facilitate Foundation Phase 2 Workshop to introduce PESTEL Scenario Planning	**Activities** • Facilitate Goal Team work sessions using the PESTEL Scenario Planning Model • Support Goal Teams in developing recommendations for DPU leadership • Facilitate Strategy Session with DPU Leadership to evaluate, select, and prioritize strategies and measures	**Activities** • Draft and finalize the strategic plan • Provide one-page strategic framework	**Activities** • Develop Goal team workplans • Develop and finalize comprehensive year-one workplan • Develop digital strategy model
FEB 21-22	FEB - MAY	MAR - MAY	MAY - AUG	SEPT	OCT - NOV	NOV - DEC	DEC - FEB

- Product Quality
- Customer Satisfaction
- Employee and Leadership Development
- Operational Optimization
- Financial Viability
- Infrastructure Stability
- Enterprise Resiliency
- Community Sustainability
- Water Resource Adequacy
- Stakeholder Understanding and Support

Sustainability and Climate Action

Columbus created our first-ever Columbus Climate Action Plan which acts as our roadmap to be **carbon neutral by 2050**, with substantial reductions by 2030 – all driven by and **centering equity, anti-racism, and environmental justice**.





2030 GHG Reduction Goal

2050 GHG Reduction Goal

CLIMATE SOLUTIONS: THE COLUMBUS WAY

1 Empower a community of climate leaders
2 Develop a clean energy economy
3 Enhance partnerships for preparedness efforts

SUSTAINABLE NEIGHBORHOODS

4 Support a healthy and resilient community
5 Implement land use planning strategies for healthy ecosystems
6 Prepare for warmer and wetter seasons

BUILDINGS

7 Increase renewable energy
8 Increase building efficiency
9 Adopt net zero and resilient building standards

TRANSPORTATION

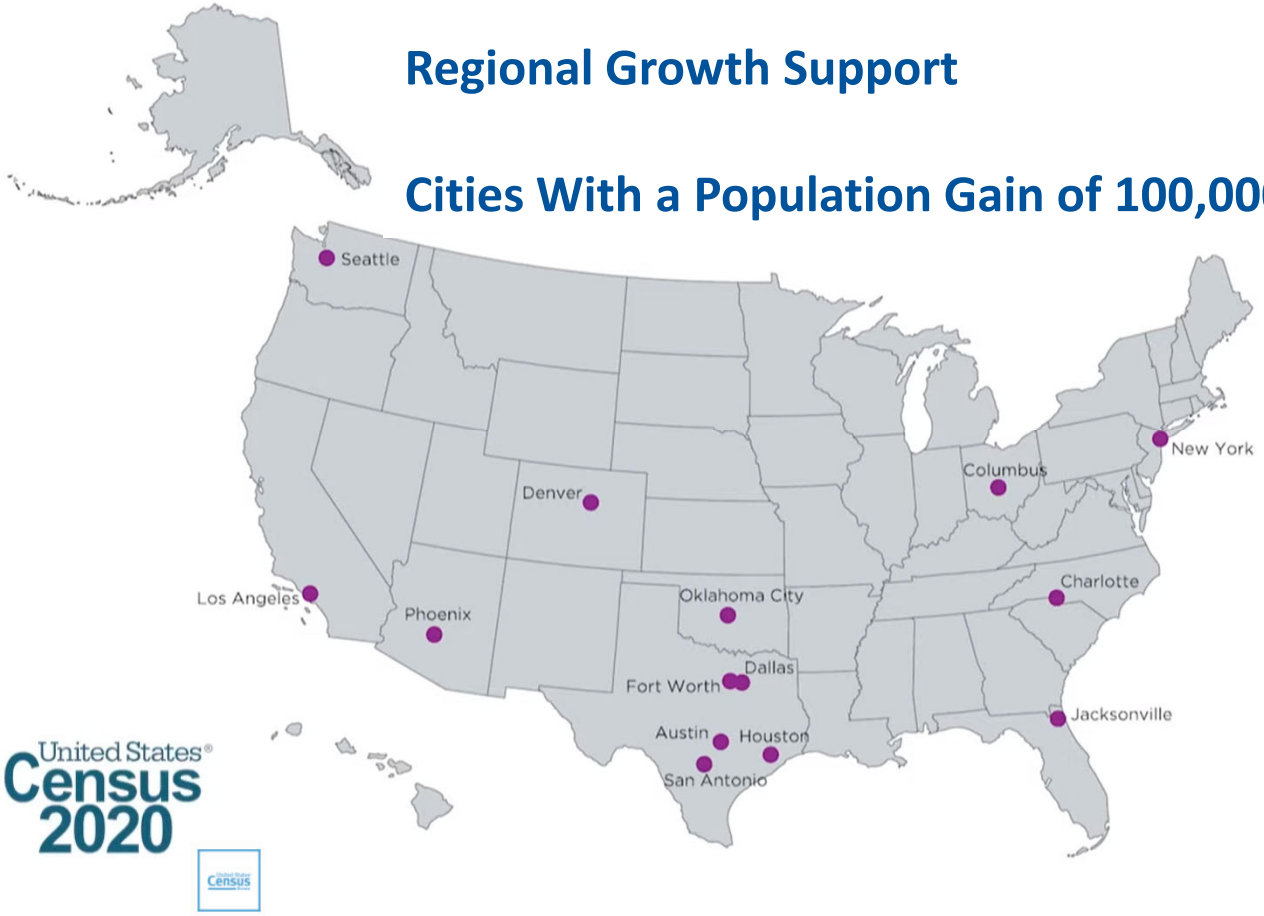
10 Enable carbon free vehicles
11 Support equitable mode shift

WASTE

12 Reduce waste generated
13 Increase waste diversion rate

Regional Growth Support

Cities With a Population Gain of 100,000+ Between 2010 to 2020



Columbus: Only city in Midwest

Regional Growth Support

$3.3B Campus Projects

$20B Chip Manufacturing Plant

$2B Data Centers

$2B Data Center

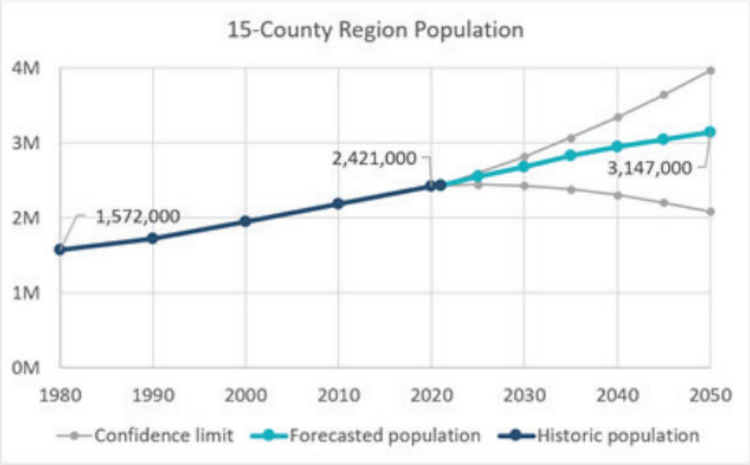
$7.8B Data Centers

$2B Airport Terminal

$1.5B Data Centers

Regional Growth Support

Regional Growth Forecast Data Points:



The 15-county Central Ohio region is on track to reach nearly 3.15 million residents by 2050, a small uptick from previous projections.

Over the course of the next 25+ years, the Central Ohio region will see a growth of 726,000 people, which equates to 272,000 additional households and 357,000 additional workers.

Source: MORPC

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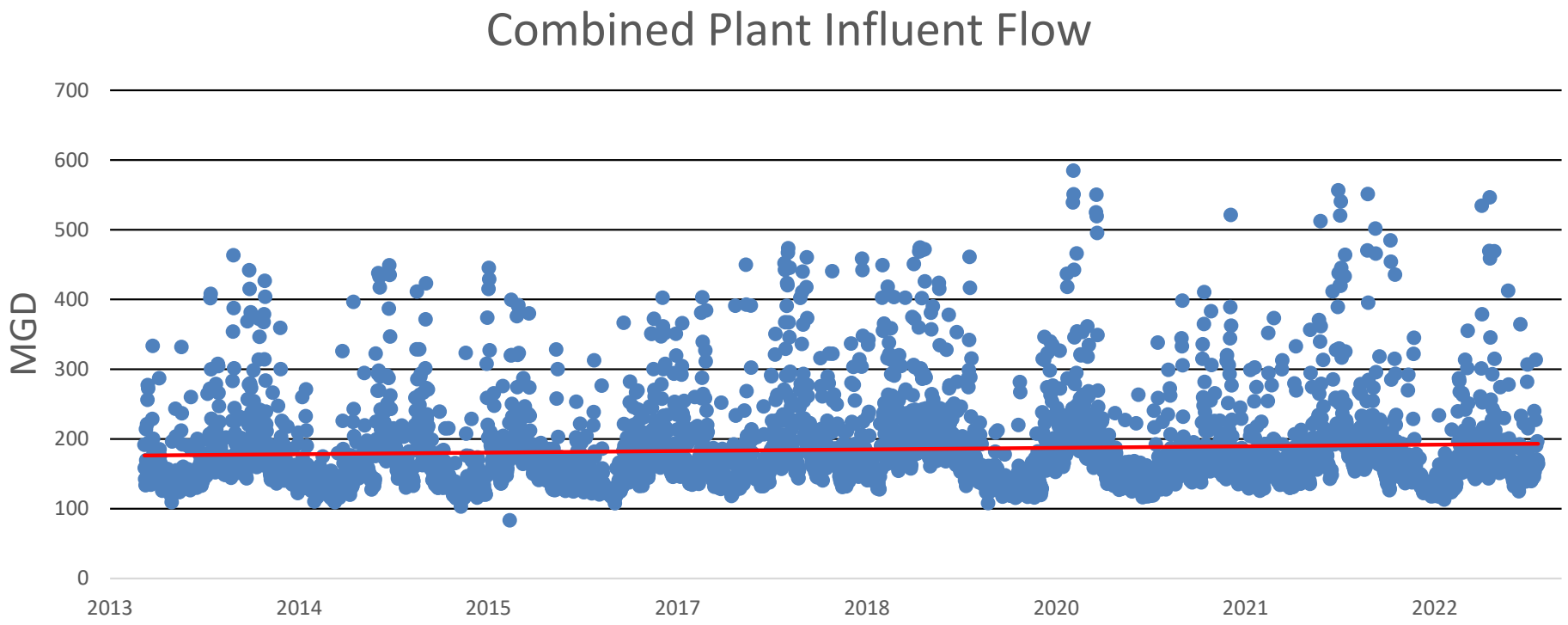
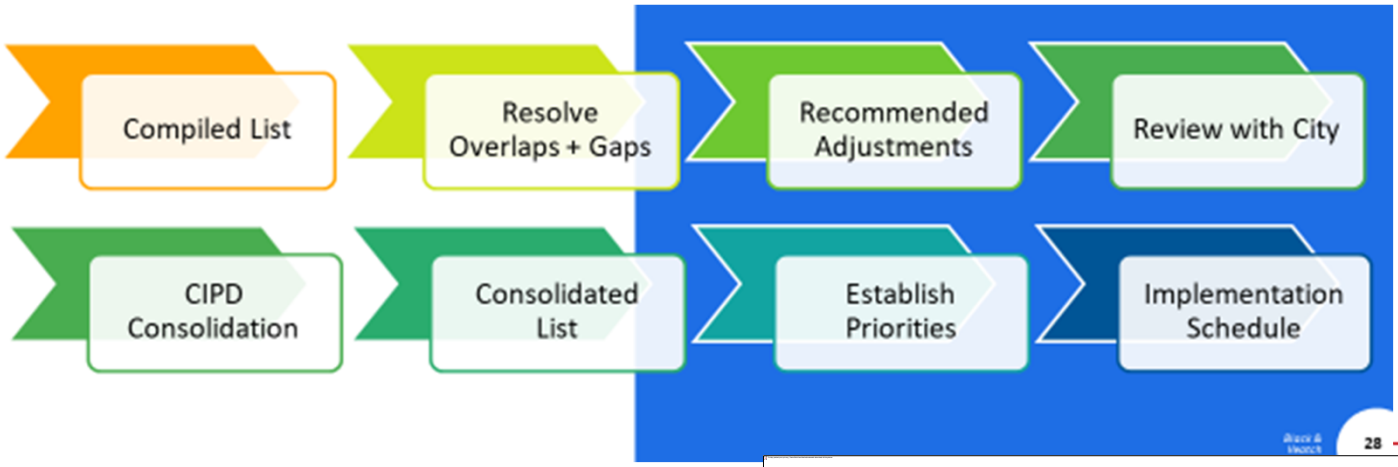
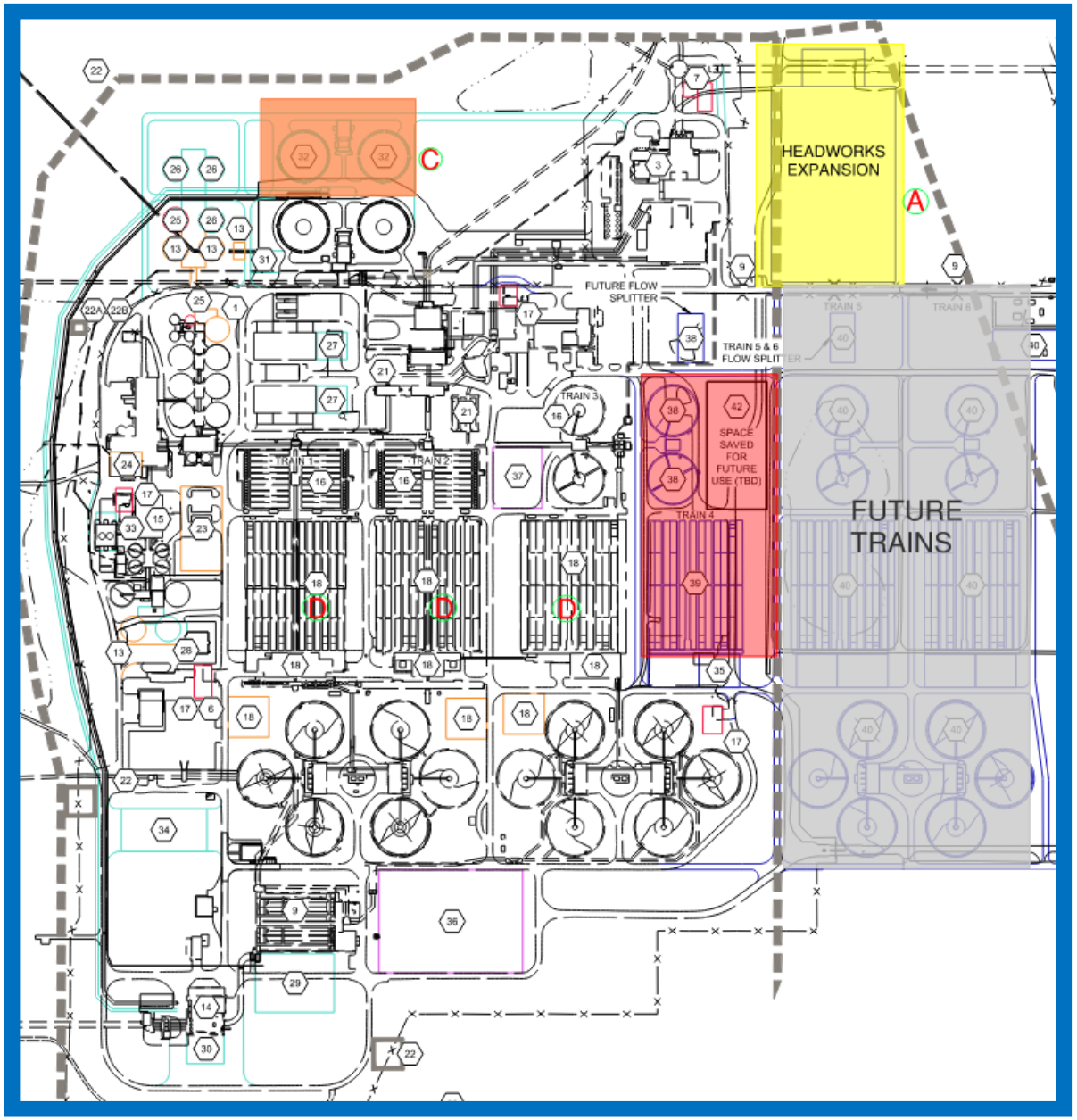


Wastewater Treatment Plants

- General Engineering Report
  - Final delivered in 2022, assumed no significant growth or improvements necessary until 2040
  - Recent expected growth in the region changed this outlook dramatically.
  - Will be revising this report as we analyze growth impacts

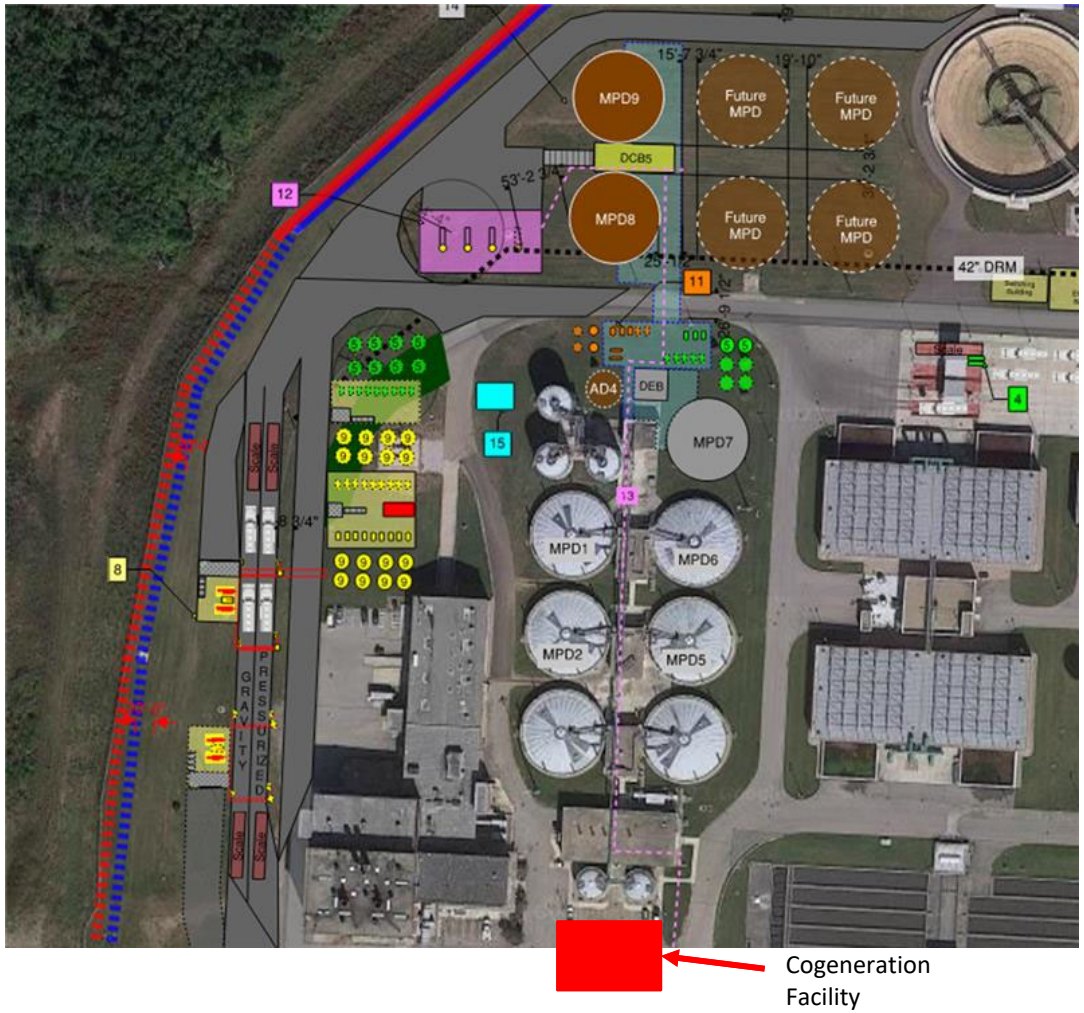




SWWTP Expansion Accelerated by Northeast Development

- Far East Train (red) was originally planned after 2040 planning horizon.
- Accelerated growth tied to Intel and associated industries has created the need for expansion sooner
- Design is planned for 2024-2026 with construction from 2026-2030.
- Current plan is to implement advanced control technologies and high efficiency equipment to optimize operations.
- Current Cost estimate is $165M for construction, $61M for design/CACI

Bioenergy Utilization Facility



- Combines Three Projects:
  - Digestion Expansion Phase 3
  - Cogeneration
  - Fats, Oils, Grease, and High Strength Organic Waste Receiving
- Increases digestion capacity by 6 million gallons
- Aligns with the City's sustainability goals
  - Electricity generation for the plant through biogas utilization
  - Reduction of food scraps in the landfill
  - Provides additional outlet for FOG
  - Reduction of Greenhouse Gasses

SWWTP Organics Receiving and Bioenergy Utilization Facility

- The start of preliminary and detailed design is in early June 2023
- Construction will begin prior to December 31, 2024 and will run for approximately 4 years
- Current Cost estimate is $140M for Construction, $45 for design/CACI
- Project is expedited to take advantage available funding
  - Anticipated 50% construction cost rebate from the IRS through the Inflation Reduction Act
  - Investigating eRINs for electricity generation
  - Potential funding through the Greenhouse Gas Reduction Fund

6 Year CIP Investment

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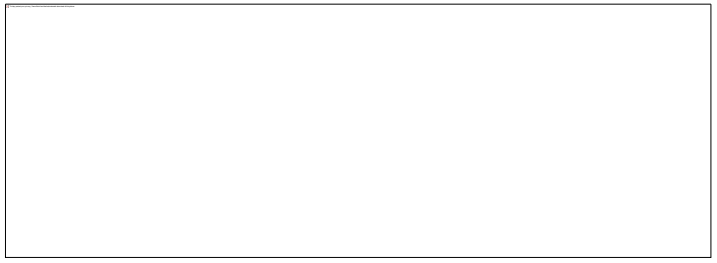
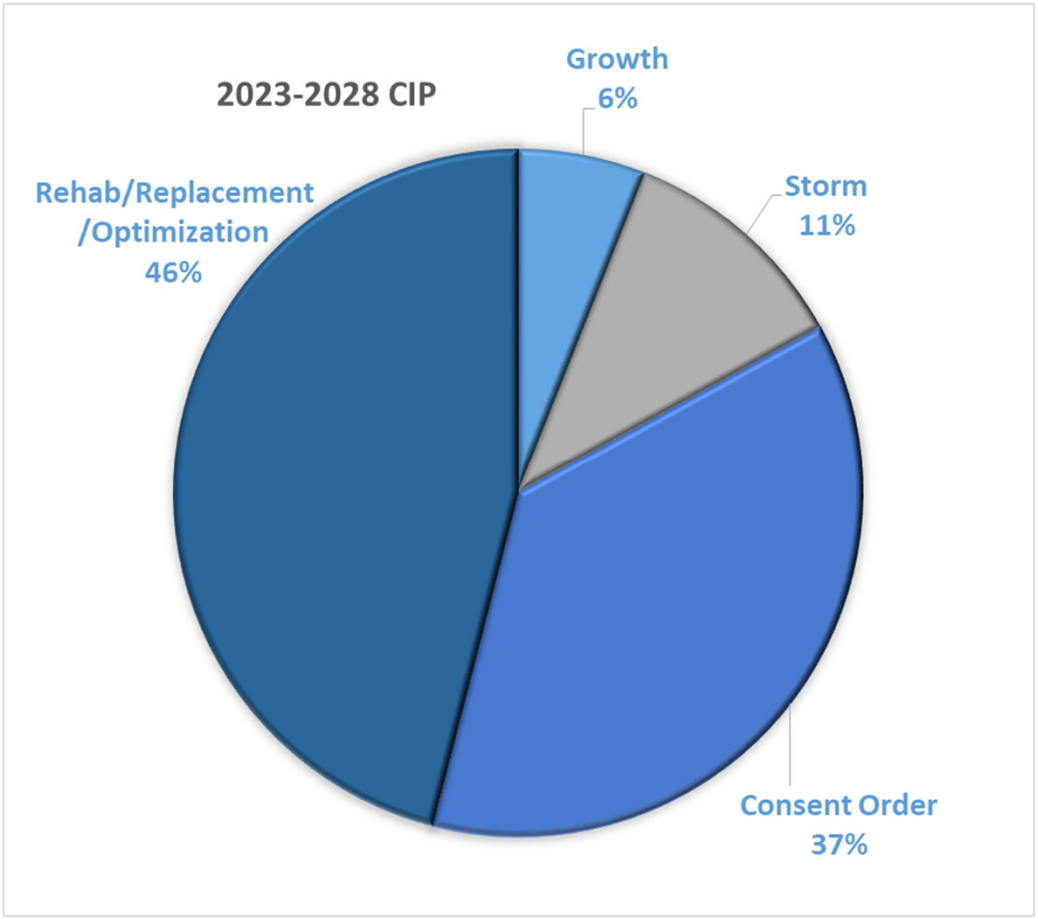
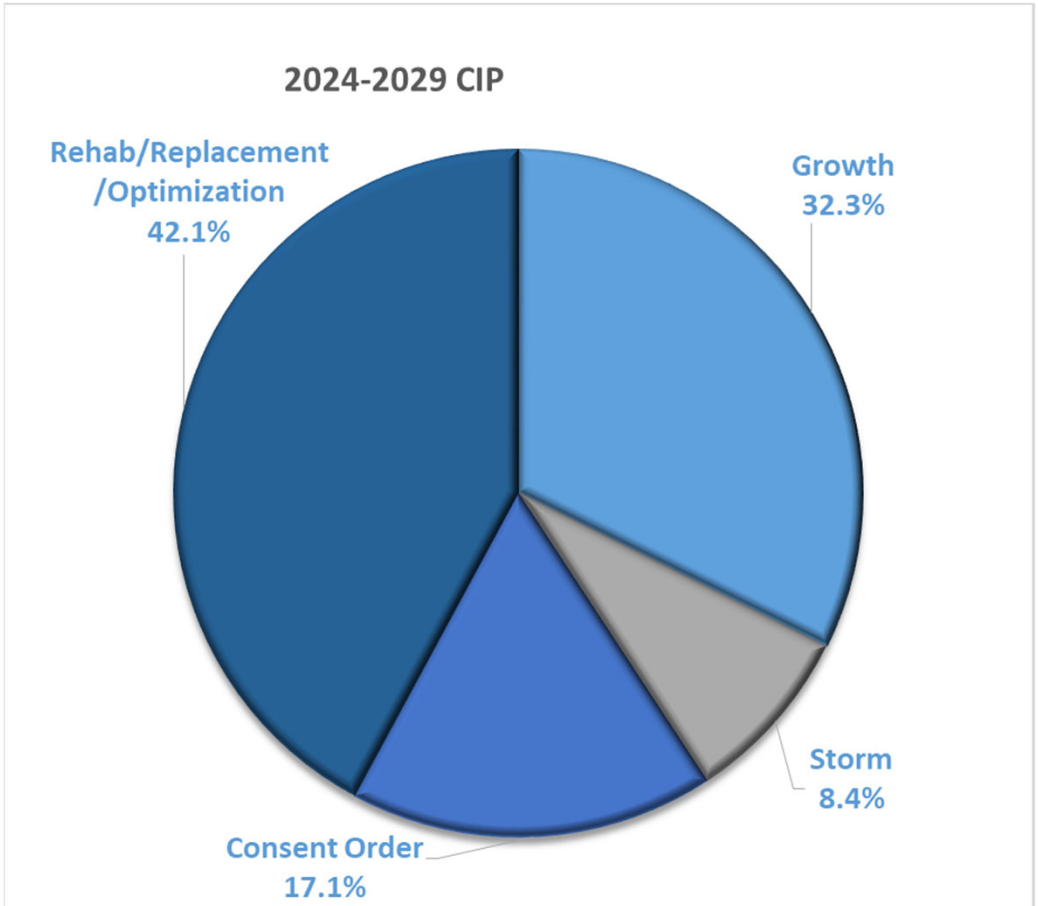


Capital Investment Trends





Capital Improvement Plan

DOSD's 6-year CIP from 2023-2028: $2.8B

DOSD's 6-year CIP from 2024-2029: $3.8B

Looking Ahead

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Division of Sewerage and Drainage - Future outlook

1. Design and construct the Far East Train and other expansion improvements at SWWTP
2. Design and construct Bioenergy Project at Southerly, as well as solar and EV Projects
3. Continue 100% beneficial reuse of biosolids
4. Complete the LOT Project and thus the CSO portion of our LTCP by 2025.
5. Continued focus on the future
   - Regulations – EC's, nutrients, etc.
   - Regional growth planning
   - Redundancy and resiliency
   - Sustainability and climate change
   - Workforce recruitment and retention
   - Affordability and Funding Options


Thank you
Questions?