Info Item: Wastewater System Plan

Water Policy Plan

Kyle Colvin, Manager, Wastewater Planning & Community Programs

Emily Schon, Principal Engineer, Wastewater Planning & Community Programs

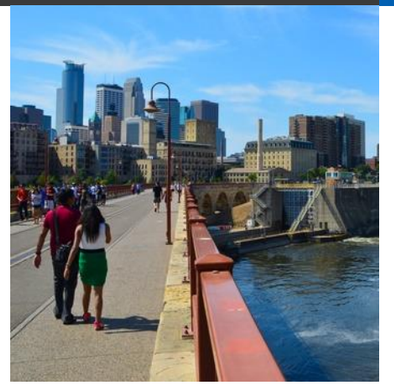
April 9, 2024 Environment Committee

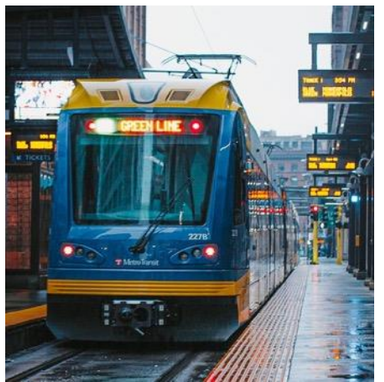
METROPOLITAN COUNCIL

Water Policy Plan (WPP)

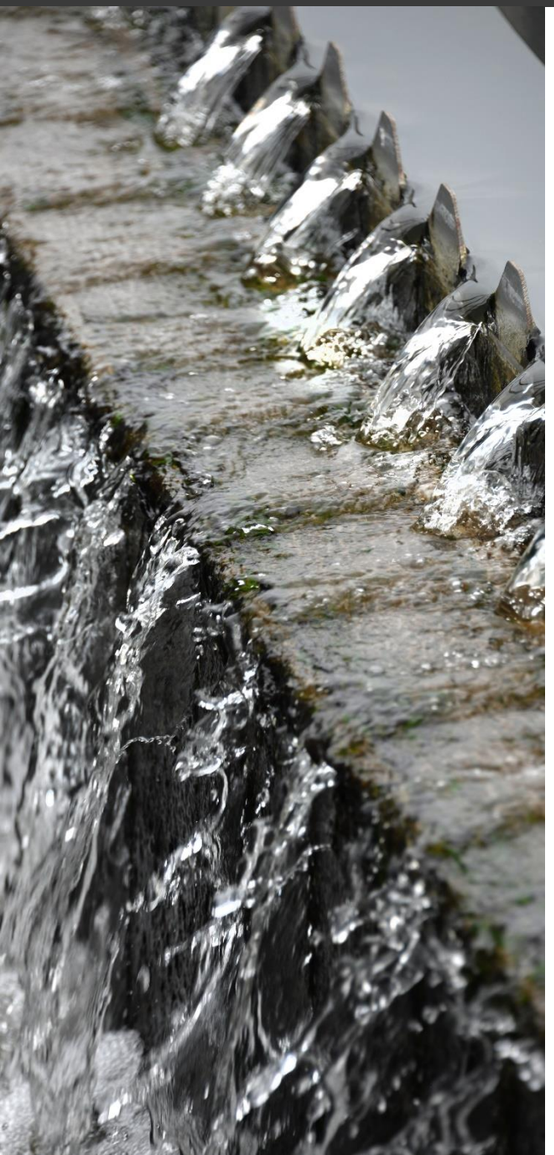
Plan Purpose

- Provides a **framework for integrated water planning** (wastewater, water supply, and water resources) including the Metro Area Water Supply Plan, and the Wastewater System Plan.
- **Focuses on ensuring sustainable water resources in the region**.
- Contains water **policies, strategies, and actions** for both the Met Council and our 180+ local governments within the seven-county region.
- WPP policies **commit the Council** to take action in the areas of long-range visioning and planning, regional system investments, facility management, technical assistance, research and assessment, and partnerships.





Statutory References

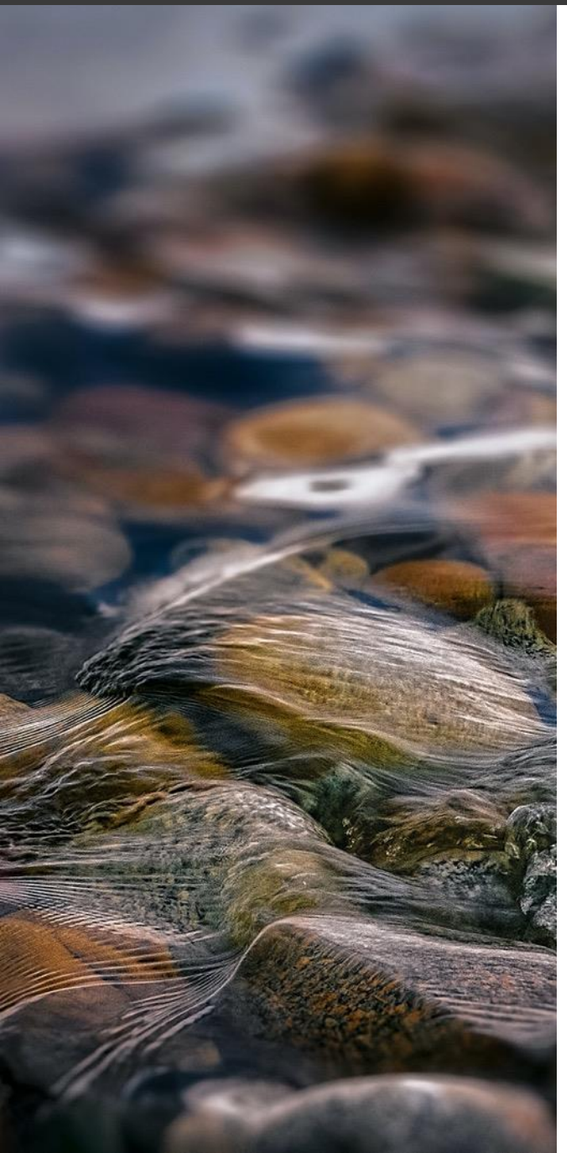


Metropolitan System Plans - Contents

Minnesota State Statute - Chapter 473:

- Population, employment, household forecasts by region
- Goals, objectives and priorities, system description, staging, Capital Improvements, funding source description.
- Issues, needs, and opportunities for system
- Policies to effectuate Council's goals, objectives, and priorities
- Fiscal implications of Council's plan
- Relationship of System Plan to local comprehensive plans

System Plan Purpose



The System Plan is:

- 20-year vision as to how regional wastewater service will be provided
    - Wastewater flow projections
    - Projected capital needs
    - Current and future service areas
- What local comprehensive sewer plan updates and amendments are compared against. *Plan modifications are required if non-conforming*:
        - System impact to / System departure from
- Updated every 10-years based on local comprehensive plan content which was approved by the Council
- Includes long-term (post 20-year) vision for how regional wastewater service will be provided

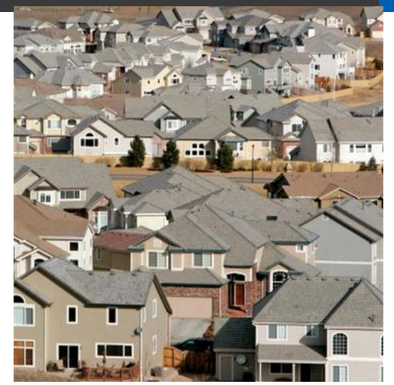
System Plan Contents

20-Year Planning

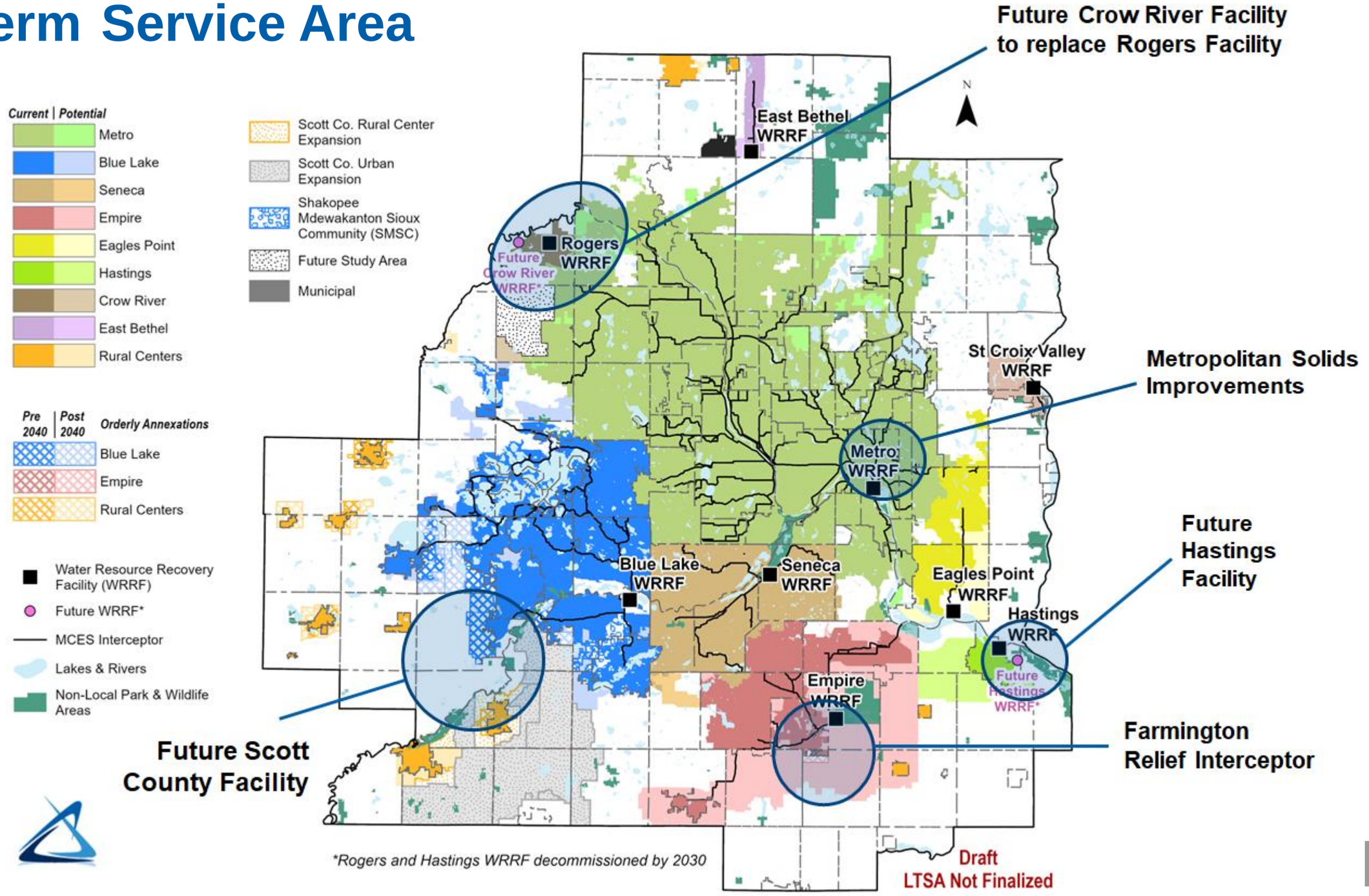
- High Level System Overview
  - Assets
  - Population, households, employment forecasts
  - Wastewater flow projections
- Regional Resource Recovery Facilities
  - Capacity (current and ultimate)
  - Treatment requirements
- Capital Improvement Program
  - Major projects
  - Regulatory strategies and anticipated treatment needs
- Considerations Guided by WPP
  - Reuse
  - Energy, climate change
  - Regulatory trends

Post 20-Year Planning

- Regional Resource Recovery Facilities (new – Scott, Cologne, NE Metro)
- Interceptor Capacity Projects
- Regulatory Strategies



Long-Term Service Area (LTSA)



Long-Term Service Considerations (20+ YR)

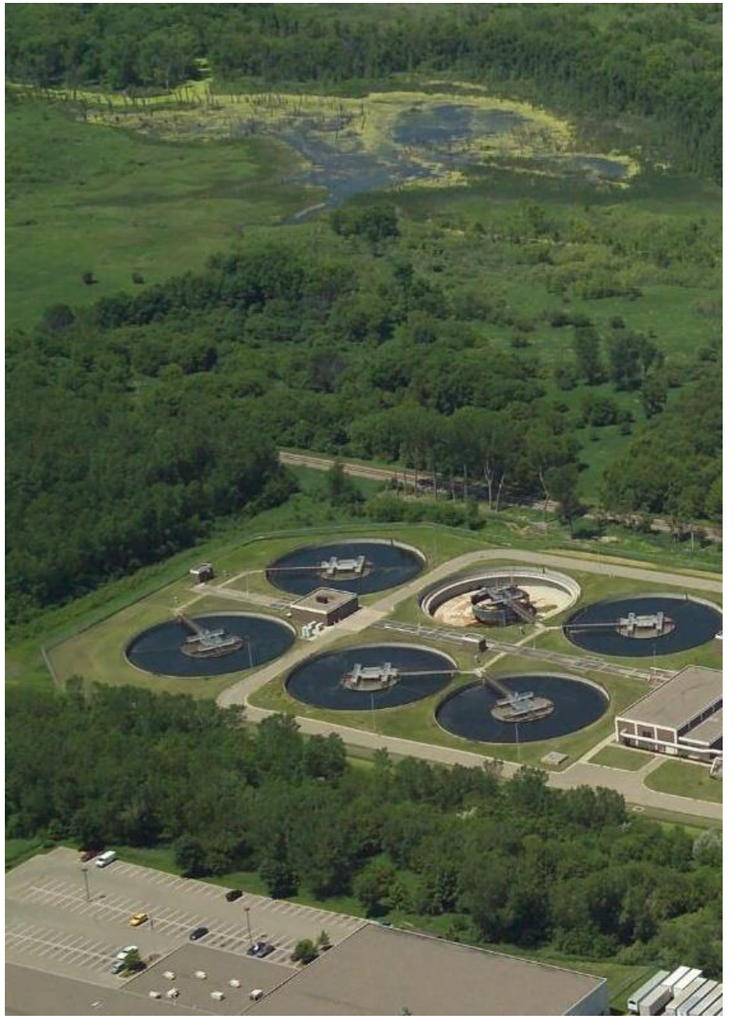
Capacity of each resource recovery site considering future regulatory scenarios.

Capacity of existing interceptors.

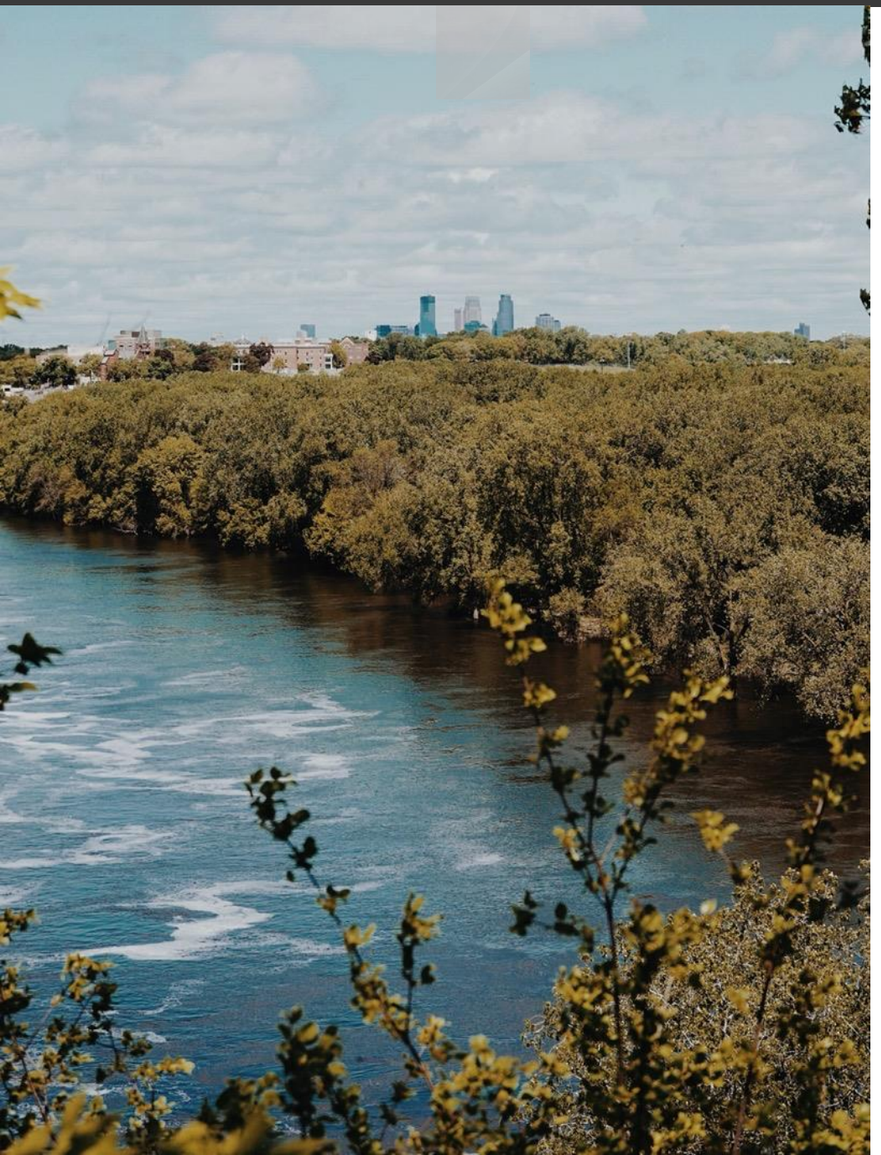
Potential developable area.

Potential new resource recovery facilities and service area revisions.

Wastewater generation rates based on location, proximity to transit and major highways, and physical features of the area.



Capital Program



Region-Wide Improvements

Migration to projects organized by geographical area

- Each area will have multiple projects

Types of projects:

- Interceptor rehabilitation and new construction
- Lift station and flow metering (new, upgrades, and rehabilitations)
- Resource recovery solids processing improvements
- Resource recovery facilities (new, upgrades, and rehabilitations)

Long-Term Capital Improvement Program

Objectives

- **Asset Preservation:**

  Preserve existing Met Council Environmental Services infrastructure investments through rehabilitation and replacements.

- **System Expansion:**

  Expand system capacity through resource recovery facility and interceptor extensions to meet the needs of a growing region.

- **Quality Improvements:**

  Improve quality of service by responding to more stringent regulations, improving safety, pursuing wastewater reuse, increasing system reliability, and conserving and generating energy.

Capital Improvement Program Highlights

Upcoming Projects

- Medina / Maple Plain system improvements (service to Loretto)
- Blaine relief sewer
- Elko New Market relief interceptor
- Savage trunk sewer acquisition
- Elm Creek flow diversion to Crow River Facility
- Northeast Area capacity improvements
  - Flow offloading from Metro Facility, or
  - Increasing conveyance capacity
- Solids improvements at Metro and Blue Lake Facilities
- New facilities - Crow River and Hastings
- Site acquisition for future Scott County Facility

Resource Recovery Strategy

Resource Recovery

Current Efforts:

- Water – through wastewater treatment
- Heat/Energy – heat energy and generation from solids incineration and biosolids production
- Biosolids – fertilizer for farmers and community partners
- Reuse – internal applications

Future Work:

- Thermal heat recovery from wastewater effluent
- Solids/Biosolids across region
- Wastewater reuse across region

Contaminants & Regulatory Scenarios

Phosphorus

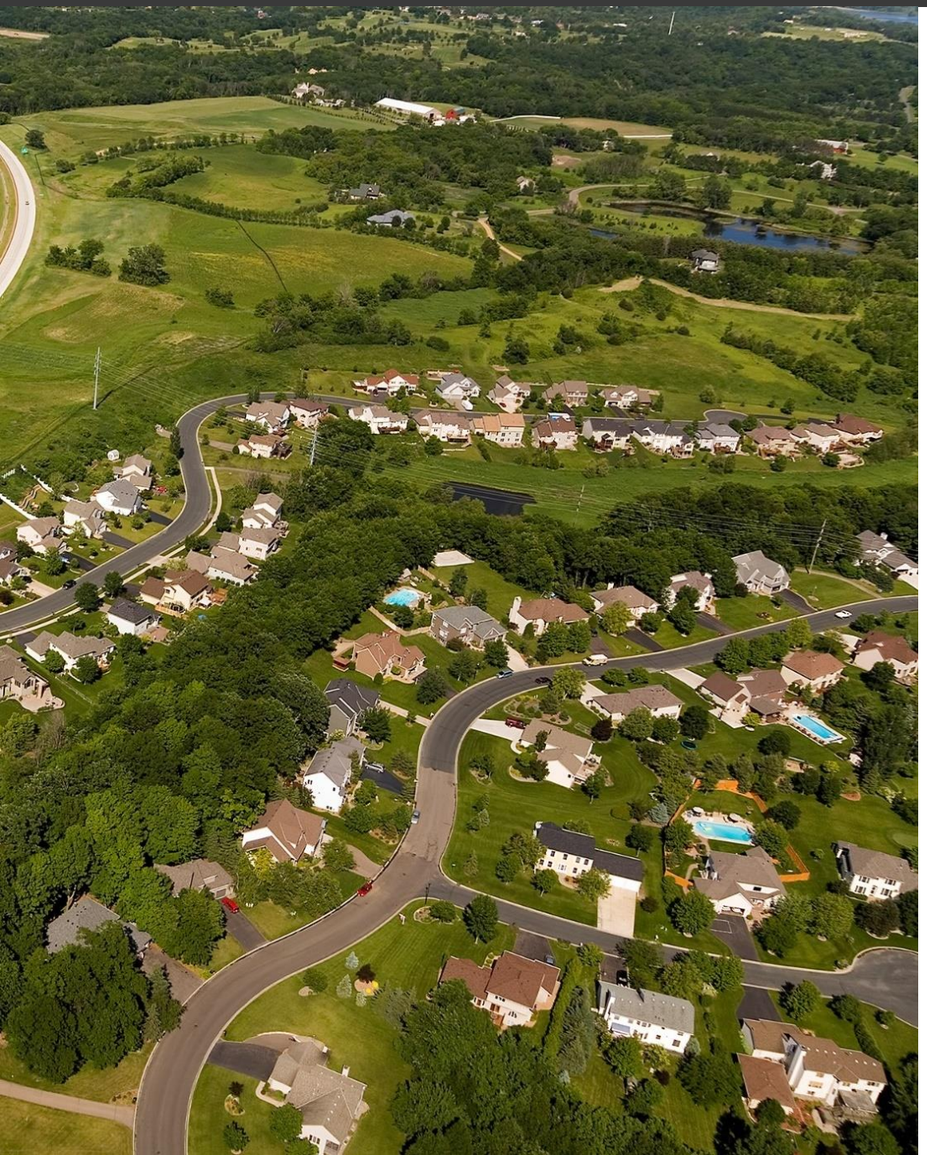
Sulfates

Chlorides

Nitrogen

PFAS/PFOS

Flow Projections & Growth



Average Design Flow Rates (wastewater generation)

- Past = 85 gallons/person/day
- Current = 70 gallons/person/day
- New Development = 60 gallons/person/day
  - This includes a 3% reduction per decade of base flow/existing flow for I/I mitigation and water conservation

Local Forecasts

- Adding 324,000 households over 30 years
- Growth Areas
  - 31% - Urban Centers & Urban Communities
  - 43% - Suburban & Suburban Edge
  - 19% - Emerging Suburban Edge
  - 7% - Rural Communities

Schedule

Date	Event
May 28, 2024	Present Water Policy Plan (WPP) to Environment Committee
July 23, 2024	Environment Committee approves WPP for Council authorization of public comment period
August 14, 2024	Council authorizes public comment period
August 15, 2024	Draft WPP posted for public comment

Thank you

Kyle Colvin

Manager, Wastewater Planning & Community Programs

Emily Schon

Principal Engineer, Wastewater Planning & Community Programs

METROPOLITAN COUNCIL

IMAGINE 2050