





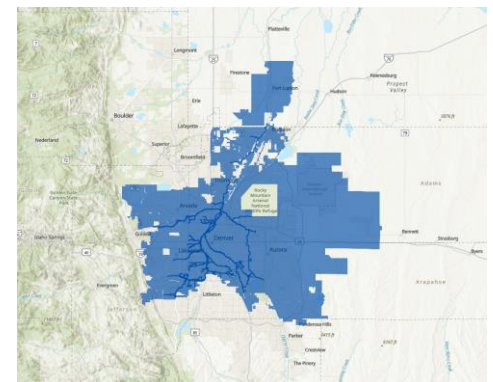
## Interactive Service Area Map

----- DAWN AMBROSIO

On Metro’s website now resides an [interactive service area map](#) that is dynamic and is updated real time. This new map will give visitors an overview of our service area and sewer systems, including our interceptor system and maintenance hole locations. Review and make sure your service area is accurate.

Per section 7.2.1 of the [Metro Water Recovery Rules and Regulations Governing the Operation, Use, and Services of the System \(Rules & Regulations\)](#) all changes to the service area should be reported to Metro annually, submitted within sixty days after the end of the calendar year.

If you have not done so already, submit updated maps as either a shapefile or a file geodatabase to Kurt Babcock, GIS Specialist, at [kbabcock@metrowaterrecovery.com](mailto:kbabcock@metrowaterrecovery.com). Kurt is also available to answer any technical questions concerning file transfer.



## Welcome Anne Marie Boger Community Engagement Liaison

Originally from Rockford, IL, Anne Marie moved to Denver in 2008 to finish her bachelor’s degree at the University of Colorado Denver. Now her home for almost 16 years, she loves living in the city and establishing her career in the Rocky Mountain West.

Anne Marie joined the StratComm team in January as the department’s newest (and first!) Community Engagement Liaison. She is excited to build and grow this program with so much potential and necessity. Anne Marie will focus on relationship-building within the many communities that Metro serves.

Before Metro, Anne Marie was the Community Engagement Liaison for Arapahoe Libraries, a large district in Arapahoe County, where she was the bridge between the library district and outside organizations.

She led community conversations, executive interviews with their CEO, and established partnerships that helped better serve their patrons and enhanced their trust and reputation amongst constituents. She also worked at a chamber of commerce for many years, where she managed accounts for a variety of businesses and nonprofits.

Anne Marie is most excited about the boots-on-the-ground aspect of the job. She genuinely enjoys meeting and connecting with people, hearing their stories, and sharing Metro’s mission.

In her spare time, you can find Anne Marie in one of three places: at a comedy club, at a restaurant, or seeing live music. She also enjoys hiking with her shih-tzu-poodle pups, Jake and Elwood. Anne Marie and her partner, Matthew, are engaged to be married this Fall.

## On the Ground with Facilities Maintenance

----- BRAD BAGBY



There are many moving parts when it comes to treating wastewater, and one of the most important jobs in our process is to make sure that those moving parts are serviced and properly working. That is where our Facilities Maintenance (FM) team comes in. The FM team is a team whose daily job is to service the facility.

“We joke around and say we’re kind of the fire department,” explains Facilities Maintenance Manager Jeff Scheble.

“Our team responds to a wide array of emergencies that range from jetting clogged pipelines to fixing the temperature in a conference room.”

The FM team is also responsible for maintaining the grounds of our facilities, which can be anything from landscaping and insect control in the warmer months to snow removal and removing injured or trapped ducks from basins in the colder periods of the year. [Read more about this critical team on Metro’s website.](#)





## Important dates

-----METRO WATER RECOVERY

**March 27**  
Annual Charge Projections Due

**April 15**  
Q2 Sewer Connection Charges Due

**April 15-19**  
Wastewater Worker Appreciation Week

**April 16 (5:30 pm)**  
Metro Board of Directors Meeting

**May 21 (5:30 pm)**  
Metro Board of Directors Meeting & Public Hearing for Budget

**June 17**  
Q2 Annual Charges Due

**June 18 (5:30 pm)**  
Metro Board of Directors Meeting

**July 15**  
Q2 Sewer Connection Charges Due



# Tour Tuesdays

## Resume in April 2024

Public tours for individuals and small groups are offered on the second Tuesday of the month, April through October, at 10:30 a.m.

See the schedule and locations below. [Reservations are required through Metro's website](#) [Contact Us form](#).

Second Tuesdays: Robert W. Hite Treatment Facility, Denver (high school age and older)

- April 9
- June 11
- August 13
- October 8

Second Tuesdays: Northern Treatment Plant, Brighton (ages 8 and older)

- May 14
- July 9
- September 10

Providing a safe environment for our visitors is a top priority, as groups are escorted through the Robert W. Hite Treatment Facility (RWHTF) in Denver and the Northern Treatment Plant (NTP) in Brighton. As a result, there may be areas unavailable for viewing due to construction or maintenance activity.

On a tour of one of our facilities, you will:

- Learn the basic concepts of how wastewater is treated.
- Understand how wastewater treatment serves a critical role in the water cycle.
- Discover how the treatment process protects the water supply for some 2.2 million people in our 805-square-mile service area.
- Observe examples of our commitment to sustainability in our operations whenever and wherever possible.

# Annual Charges for Service Webinar

----- DAWN AMBROSIO



Thank you for attending the annual charge webinars in February and March. If you were unable to join, [here is a link the recording](#).

On our website, there are two documents to help with estimating annual charges and a reminder of the process timing:

- [Planning for Annual Charges](#)
- [The Annual Charges Process](#)

## Metro Water Recovery Innovation Reaches New Milestone with the MARC

Innovation at Metro Water Recovery reached another milestone to help the organization cost-effectively meet environmental regulations. In late February 2024, the Technology & Innovation Department (TID) and Environmental Services laboratory employees began their first water quality analyses in *Metro's Applied Research Center (MARC)*, a new (repurposed) facility in the Transmissions Building.

This dedicated research space allows employees to conduct critical piloting and testing as they vet technologies to meet approaching compliance deadlines. "Through our historical work, we have learned certain lessons and understand the importance of having a dedicated lab space," states TID Director Dan Freedman (research examples below). Expediency – including the ability to conduct more tests concurrently – is needed for major priorities on the horizon, along with [tertiary](#) treatment which could involve a complex pilot system with several unit processes.

Dan anticipates the MARC will also present a broader opportunity to attract collaborative partnerships with technology providers, academics, and others. These partnerships could augment Metro Water Recovery's capabilities and resources and build employee knowledge and skills.



Rudy Maltos, who led development of the MARC, and Tracy Fielder haul equipment and supplies into the Transmissions Building on move-in day.

### Pre-2018

- Sidestream-enhanced biological [phosphorus](#) removal
- Deammonification
- [Peracetic acid](#) disinfection
- Phosphorus recovery and digestion piloting
- Thermal hydrolysis pretreatment

### 2018–2023

- Densified activated sludge for sludge settleability
- Dissolved organic nutrients treatability study
- Northern Treatment Plant effluent cooling towers
- Post digestion sidestream treatment

### 2024 & Beyond

- [Secondary](#) treatment intensification
- Robert W. Hite Treatment Facility effluent cooling
- Conventional and advanced tertiary treatment for:
  - Nutrients
  - Salinity
  - Metals

TID applied research examples involving laboratory testing and analysis



## Making the MARC

The MARC occupies approximately 1,000 square feet in the northeast corner of the Transmissions Building, in an area formerly used by the Environmental Sampling team. The room was modified under the Technical Services Building (TSB) Fixed Asset Replacements and Improvements Project (PAR 1369) to add drains, improve water access, and meet the same clean room and safety requirements as the TSB lab. The west portion of the space is a clean room and water quality lab; the east portion is a high-bay area where TID may conduct, build, and scale pilots and other tests.

### Space to Mobilize and Analyze Quickly

TID lab work measures the impact of reagents (substances added to produce chemical reactions) on effluent from a treatment process. A dedicated space means TID and lab employees can expedite their work and no longer need to repeat activities to set up new TID micro-labs, such as (1) coordinating with other departments to find, vet, clean out, set up, and optimize a space; and (2) hauling sampling and analysis equipment and supplies to the space.

### First Uses

TID began moving equipment into the MARC on February 1 for the following priorities in 2024:

- North Secondary intensification activity testing
  - Densified activated sludge impacts on disinfection
- Measuring sludge oxygen uptake rates



MARC high-bay area.



MARC clean room.

### Team Retrofit

Dan tasked TID Staff Engineer Rudy Maltos with establishing a research center on Rudy's first day at Metro Water Recovery. Metro Project Manager Amy Rushton and Staff Engineer Myles Howard from Engineering worked with Rudy and Dan on the retrofit. Other key team members include Jeff Scheble, Doug Bockman, Chris Kershner, and Adrian Quintana from Maintenance; Bill Pieper from Engineering; Tom Acampora and Kisha Ortiz from Transmissions; and Stantec.

Senior Instrument Solutions Manager Ian Myers is the lead for online analyzers and anything analyzer-related. Laboratory Research Manager Natalie Love and Laboratory Research Scientists Ashley Bruhn and Tracy Fielder are advising Rudy on best practices for lab setup and operation.

### Leaving a Mark

Rudy considers the MARC to be a pilot facility which will be improved in future years. He anticipates this dedicated space will enable TID to build more benchtop systems to gather data under different conditions, which will aid decision-making. Rudy also envisions the MARC could become a "destination of choice in the industry" and enable employees to collaborate with a broad range of experts. "What we intend to do is leave a mark," states Dan, who recognizes the potential regional and industry impact from this research center.

TID plans to host an Open House once the facility is fully outfitted.

## Micro-Lab Appreciation and Lookback

TID team members are appreciative of the laboratory employees who helped to improvise TID micro-labs in various buildings over the last few years. The MARC incorporates best practices gleaned from those spaces. Example sites on this page reflect the will of employees to gather testing samples and analyze the data wherever they could find the space (even closets).



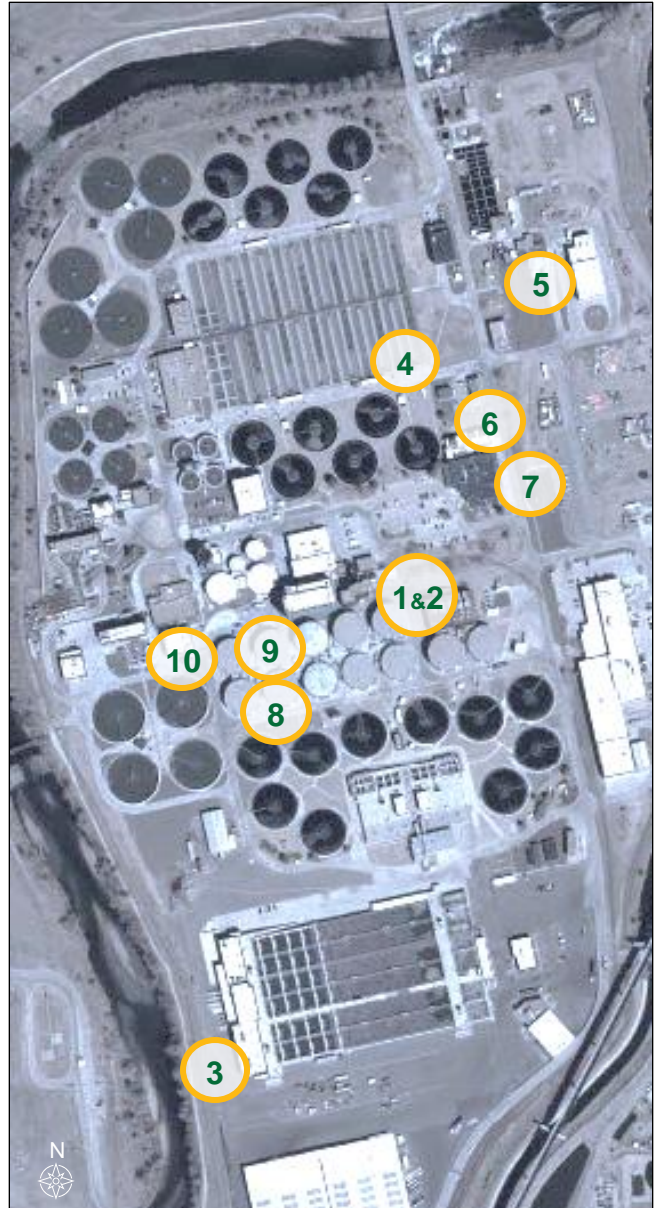
The *Bat Cave* was one of the first micro-labs and was set up in a storage room at the TSB lab.



The thermal hydrolysis pretreatment pilot was in a trailer west of the Digester Complex.



The MagPrex™ pilot and trailer were located within the Digester Complex.



### Micro-Lab Examples

1. Pilot Lab
2. Bat Cave
3. South Lab
4. Lab Auxiliary Facility
5. Disinfection Building
6. North (Process) Lab
7. Center for Research Scientists
8. MagPrex™ (AirPrex®) Pilot and Trailer
9. Waste Activated Sludge Stripping to Recover Internal Phosphate (WASSTRIP®) Pilot
10. Thermal Hydrolysis Pilot Trailer