Information Item:
2022 Summer Intern Presentations

METROPOLITAN COUNCIL

Environment Committee: August 9, 2022

Andrea Childress

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Municipal Wastewater Rates and Affordability

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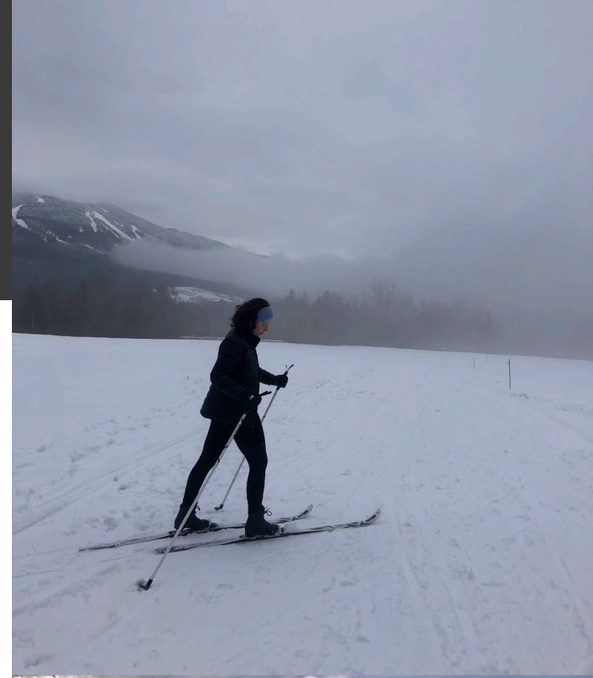
Penelope Hunter

Introduction

Penelope Hunter

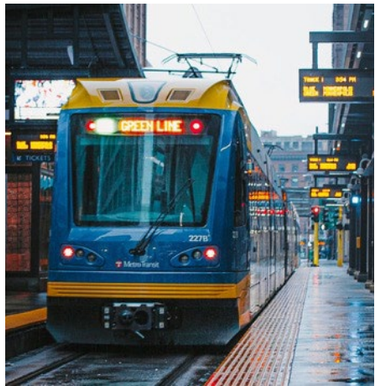
- Macalester College
- Junior
- Majors: Economics and Environmental Studies
- Rates and Affordability Project



Municipal Wastewater Rates and Affordability

My Project and Career

- Updated the biannual municipal wastewater Rate Survey by locating each city's residential sewer rate
- Researched the affordability of these rates by looking at Environmental Protection Agency threshold guidelines. Partnered with Corgan Archuleta (Urban Scholar – GIS Intern) to create affordability maps.
- This work allowed me to see how my knowledge of economics can be applied. Exploring this division and meeting with people gave me a clearer sense of my options after college and where I can start my career.



Questions

Penelope Hunter

Finance and Wastewater Rates Intern
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Programable Logic Control (PLC) Upgrade Project

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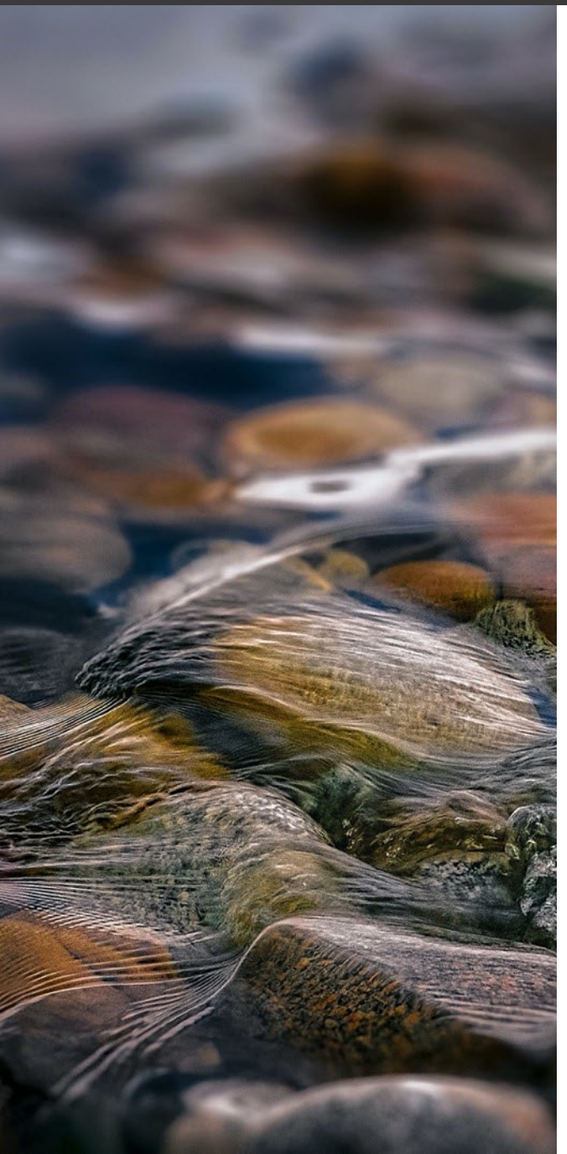
Jeff Thompson

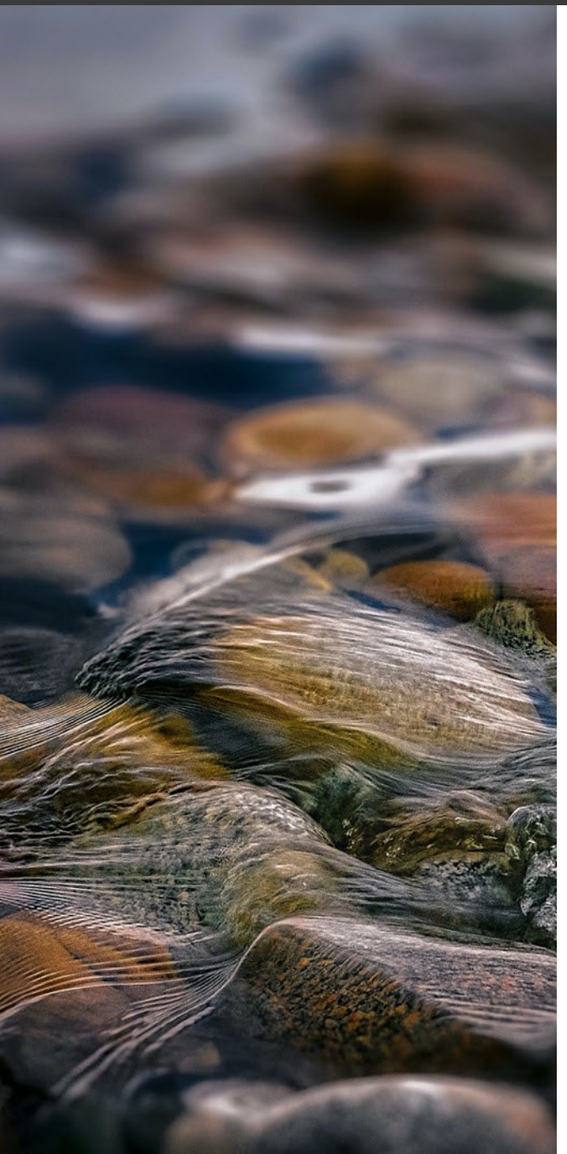
Introduction



Jeff Thompson

- Northwoods Technical College – New Richmond, Wisconsin
- Graduated May 2022
- Associates Degree in Automation for Industrial Systems
- PLC (Programable Logic Control) Replacement
- Laid off on August 7, 2020 due to Covid-19. What now? I could go back to college! Started classes at Northwoods Technical College on August 24, 2020. Enjoy mountain biking and golf in the summer, snowboarding in the winter. Have volunteered with Courage Kenny Adaptive Ski and Snowboard program for 12 years.

PLC Replacement Project

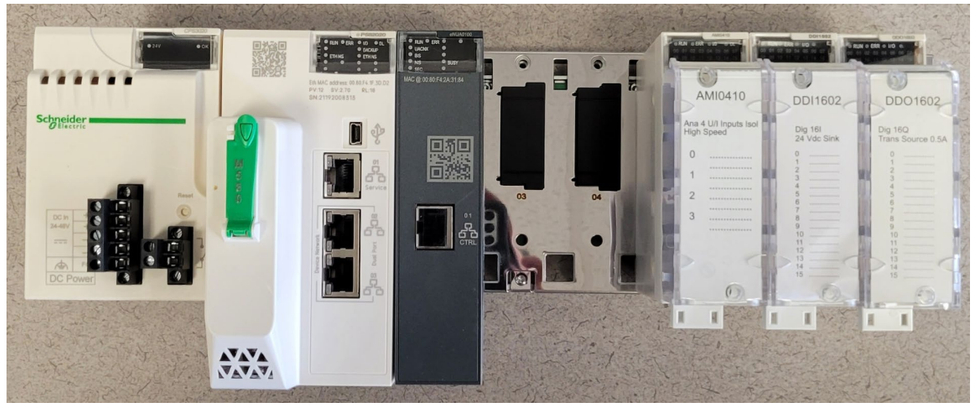


Head House PLC Upgrade / New PLC Implementation

- Radio frequency reliability issues upgraded to WAN (Wide Area Network) platform
- Obsolete 25-year-old hardware, no replacement parts
- SCADAPack/Quantum/SLC500 PLC’s will be replaced with Schneider Electric M580 PLC
- Opportunity to standardize PLC hardware, logic code and HMI graphics (Human Machine Interface)

OLD

NEW



Questions

Jeff Thompson

PLC Replacement Intern
Process Control Group
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Standard Operating Procedure (SOP) Audit Project

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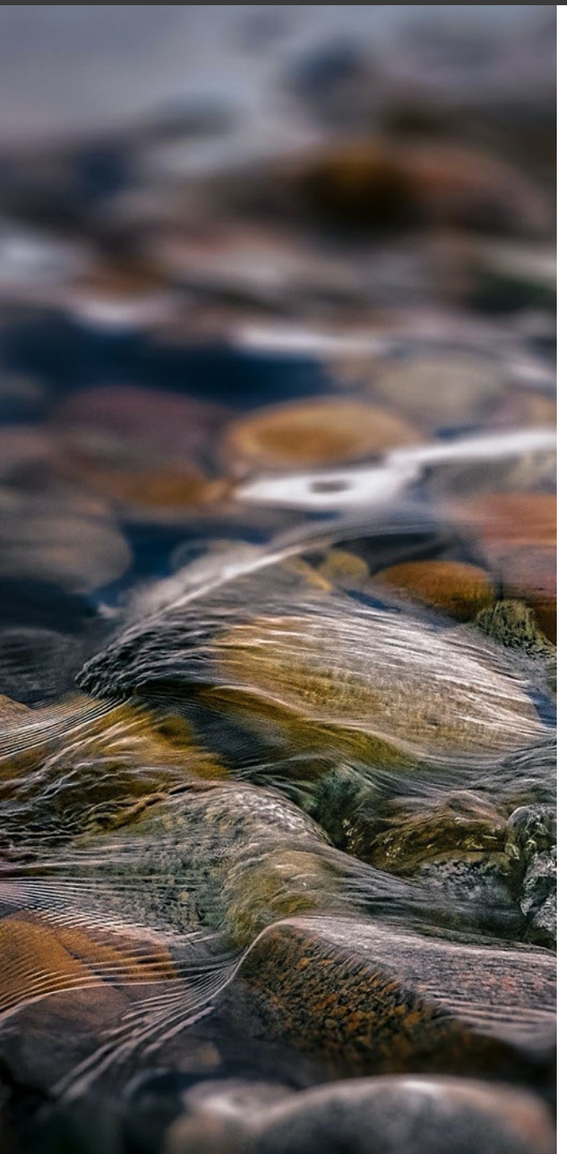
Noel Wang

Introduction



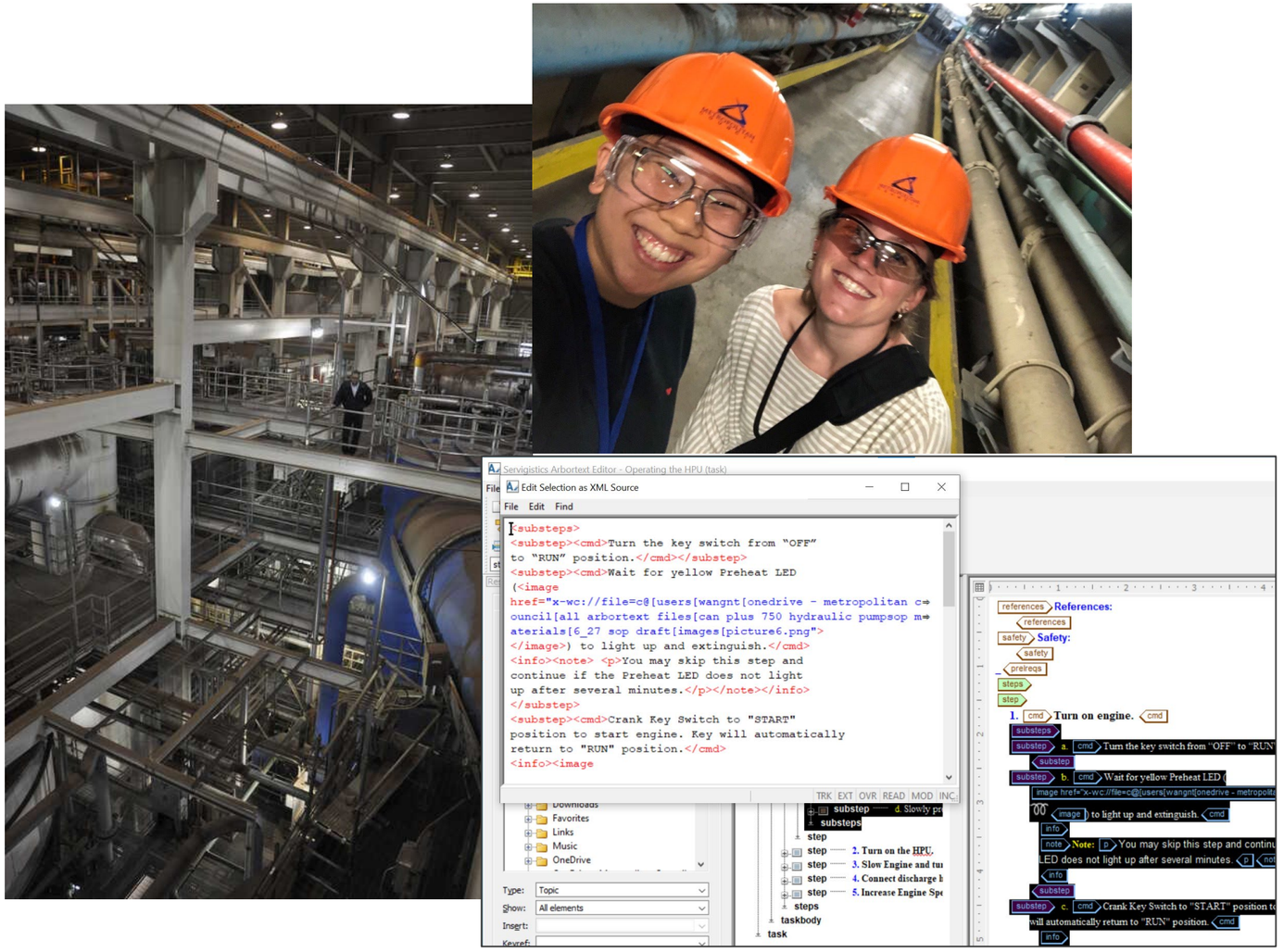
Noel Wang

- Carleton College
- Graduating 2025
- Major: Physics (prospective) Minor: Chinese, Creative Writing (prospective)
- Standard Operating Procedures Audit Project

SOP Audit Project

Impact

- Skills
  - Structured authoring/technical writing
  - Content management
- Knowledge
  - Tours of wastewater treatment process
  - MCES community/environmental impact
  - Informational interviews
- Insight
  - Public sector
  - Environmental services
  - Industry



Questions

Noel Wang

Technical Writing Intern
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Standard Operating Procedure (SOP) Audit Project

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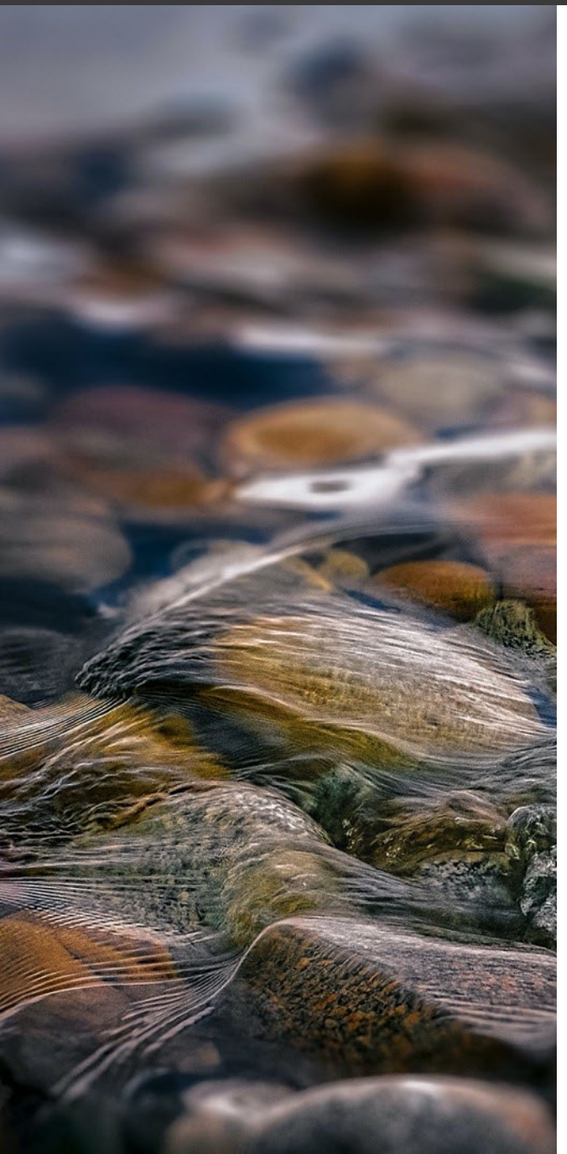
Ngoc Pham

Introduction



Ngoc Pham

- Macalester College
- Graduating Summer 2022
- Major: English, Minor: Environmental Studies
- SOP Audit Project

SOP Audit Project

Key Highlights of Project / Career Impact

- Documented and categorized errors in over 300 SOPs caused by conversion to Facilities & Operations Library
- Authored and edited SOPs using Arbortext
- Updated Interceptor Services' SOP binder
- Streamlined auditing workflow
- Developed guideline for future auditors

- Learned about challenges and career opportunities in sustainability
- Explored interdisciplinary approaches in environmental services
- Learned and practiced new technology
- Broadened my understanding of water management
- Deepened my appreciation for the Twin Cities and community-oriented work

Questions

Ngoc Pham

Intern Technical Writer
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Pollution Prevention of Per- and Polyfluoroalkyl Substances (PFAS)

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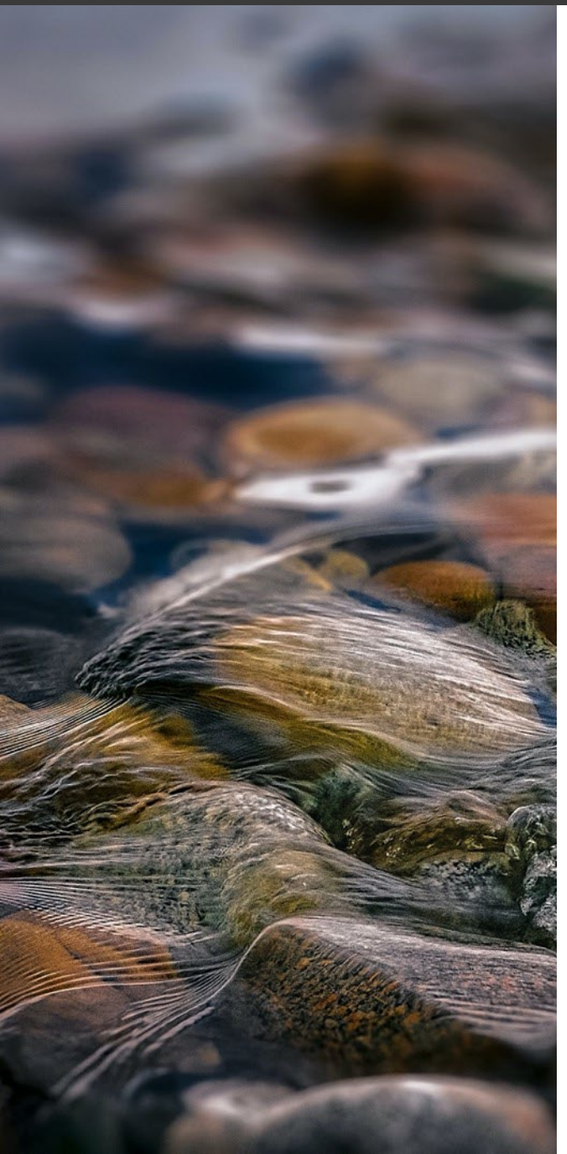
Salomeh Rostami

Introduction



Salomeh Rostami

- University of Minnesota – Twin Cities
- Graduated May 2022
- Major: Environmental Engineering
- Pollution Prevention of Per- and Polyfluoroalkyl Substances (PFAS) from Industrial Users

Source Reduction of PFAS

Project Deliverables

- Compiled a list of carpet cleaners in the 7 county Metro area
  - Developed an industry specific survey and fact sheet with Best Management Practices (BMPs)
- Wrote an inspection report and learned about the permitting process
- Worked on updating treatment plant summaries for internal use

Career Development

- Applied what I learned in my classes
- Worked on University of Minnesota odor investigation

Questions

Salomeh Rostami

Intern
Industrial Waste Pollution Prevention
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Three-Dimension (3D) Scans and Instructional Design

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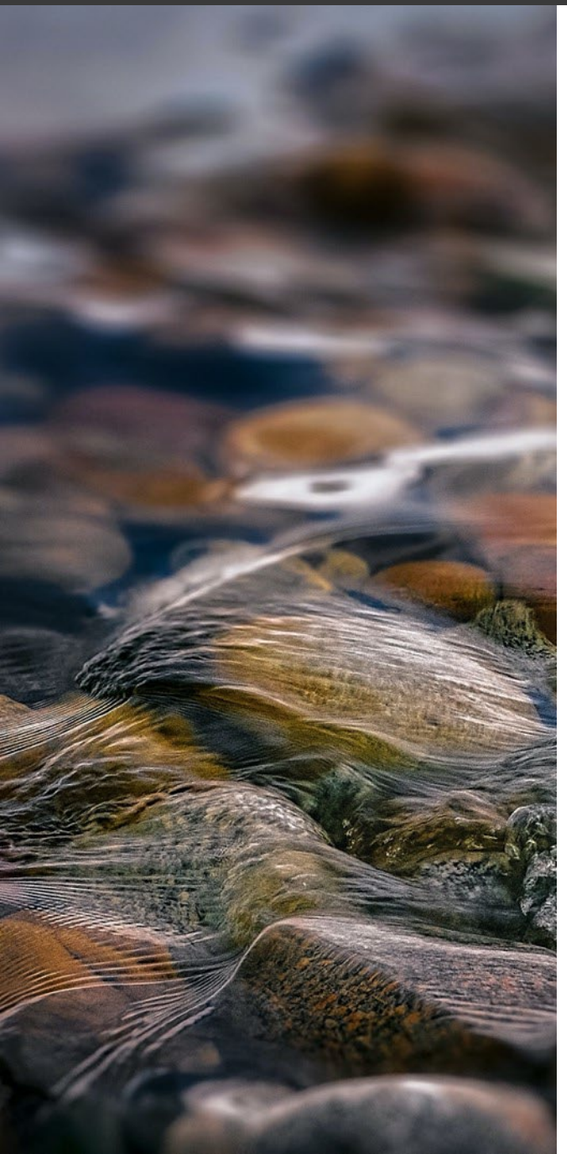
Julia Cedergren

Introduction



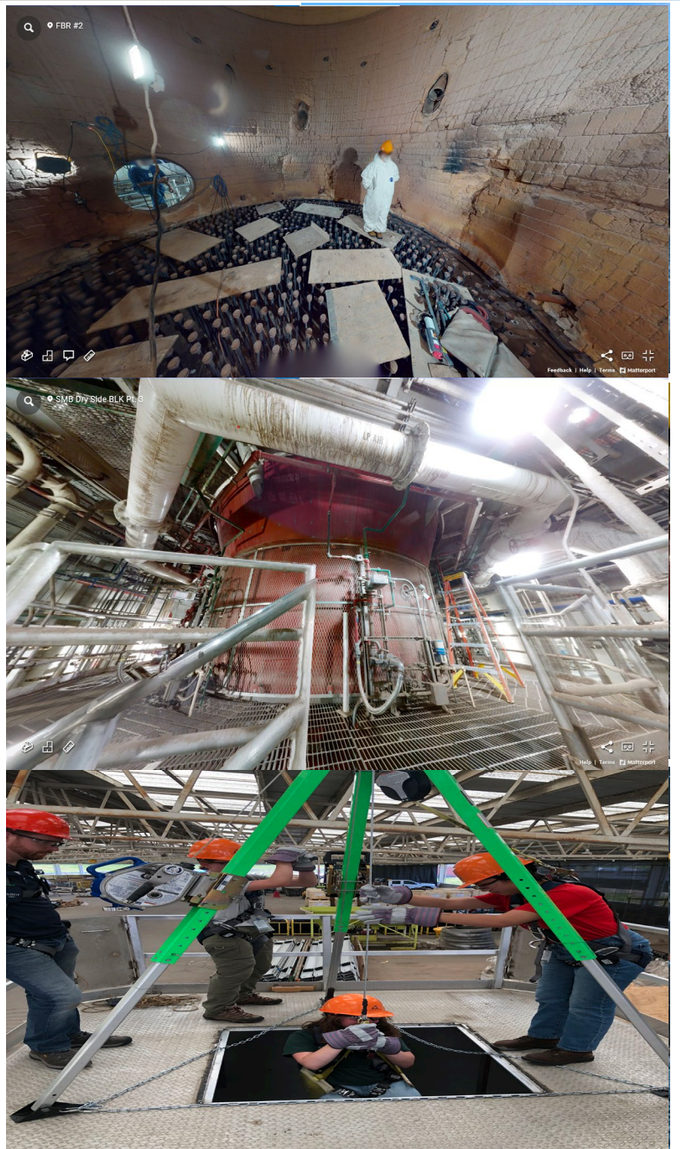
Julia Cedergren

- University of Minnesota-Twin Cities
- Junior
- Major: Psychology and Graphic Design
- Augmented Reality (AR)/Virtual Reality (VR)/Three-Dimension (3D) Scans
- Instructional Design: Emergency Action Plans

AR/VR/3D and Instructional Design

Key Highlights of Project / Career Impact

- Learning new innovative technologies
- Learning key instructional design software
- Creating a safer environment
- Exploring future career paths
- Applying knowledge from my education to the workforce



Questions

Julia Cedergren

Instructional Design Intern
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Centrifuge Performance

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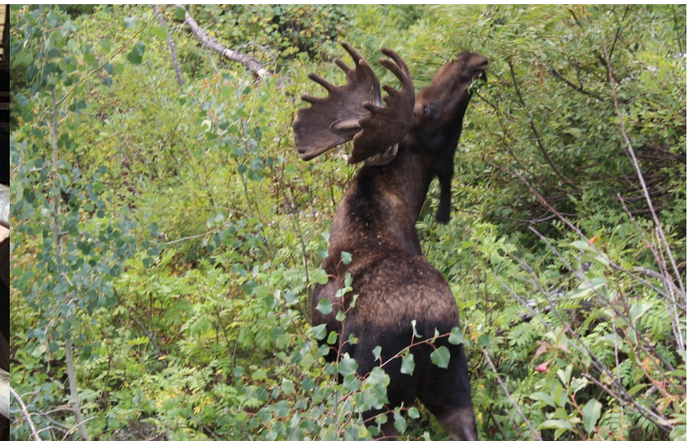
Grace Leonardson

Introduction

Grace Leonardson

- University of Minnesota Twin Cities
- 3rd Year
- Chemical Engineering B.S., Sustainability Minor
- Centrifuge Performance Project



Centrifuge Performance

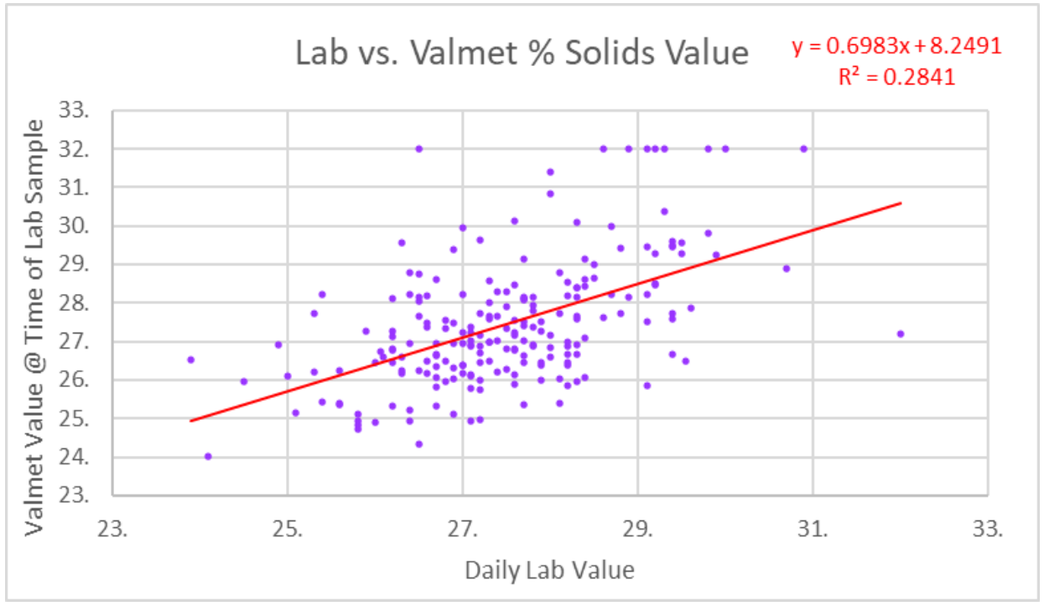
Chemical Engineering in Action

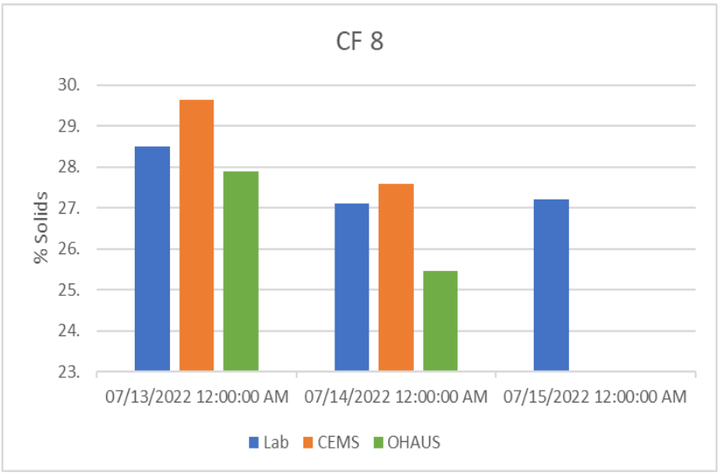
Project

- Centrifuge dries solids → incinerator
- Natural gas supplements cake that is too wet and is very expensive
- Analyzed precision of % solids measurements
- Automated Valmet cake analyzer

Career

- Data analysis
- Objective problem-solving
- Interviewed 25 engineers
- Value of interpersonal skills and variety of perspectives
- Engineering = excitement





Metropolitan Council

Questions

Grace Leonardson

Project Commissioning Intern
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Leona536@umn.edu

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Met Council Environmental Services (MCES) Library

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Amber McKenzie

Introduction

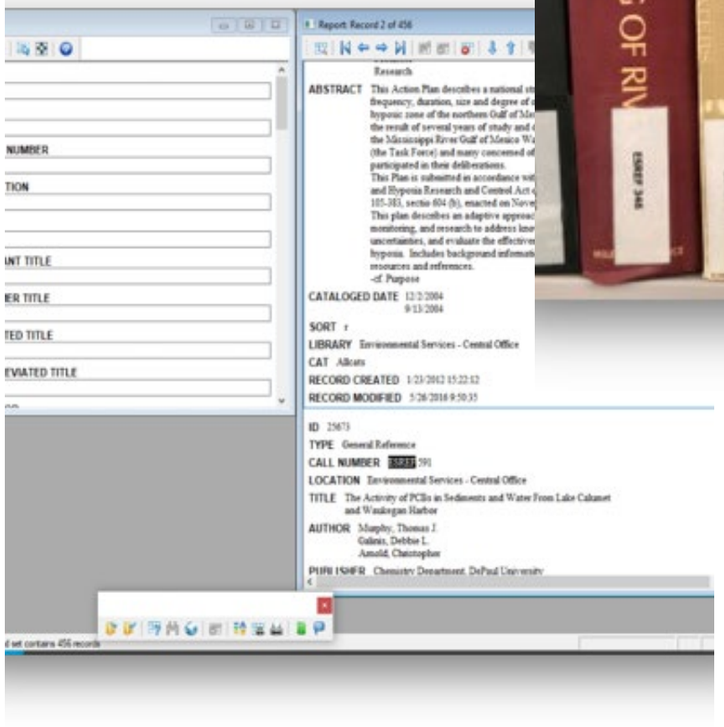
Amber McKenzie

- St. Catherine University
- Expected Graduation in December 2022
- Master of Library and Information Science
- MCES Library Project

MCES Library

Key Highlights of Project / Career Impact

- Aligning the collection with the catalog
- Collection development policy
  - How do libraries decide what to keep, what to discard, what to digitize?
- Career impact: Special libraries



Amber McKenzie

Document Management Intern
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Water Quality Monitoring

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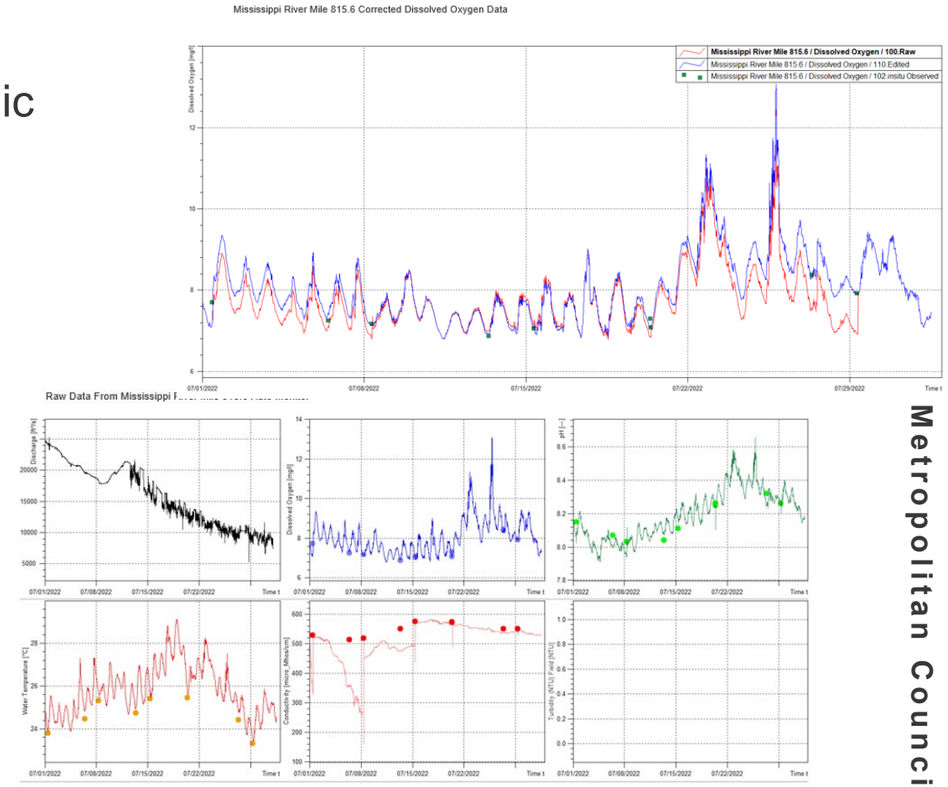
Megan Schmaltz

Introduction

Megan Schmaltz

- School: Humphrey School of Public Affairs
- Student Year: May 2022 graduate
- Degree: Masters in Science, Technology, and Environmental Policy



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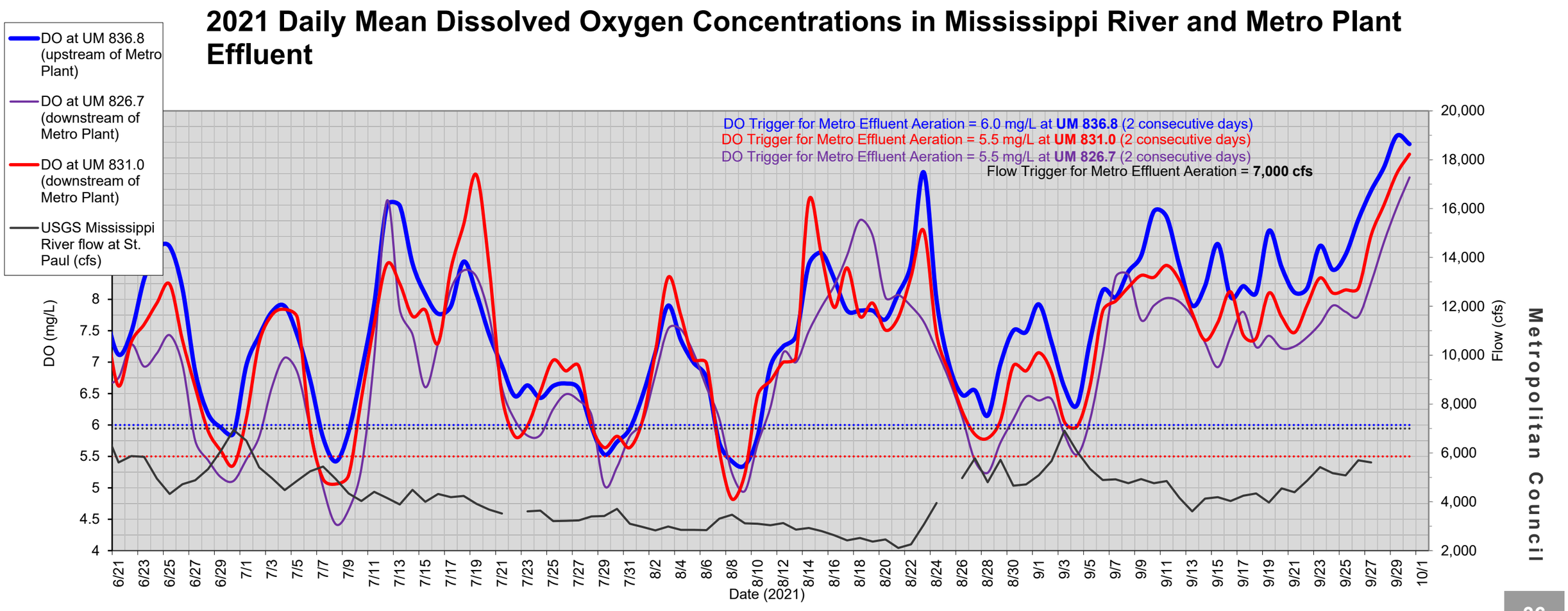
Data Management & Application



Questions

Megan Schmaltz

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Water Resources
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Mapping Underground Structures

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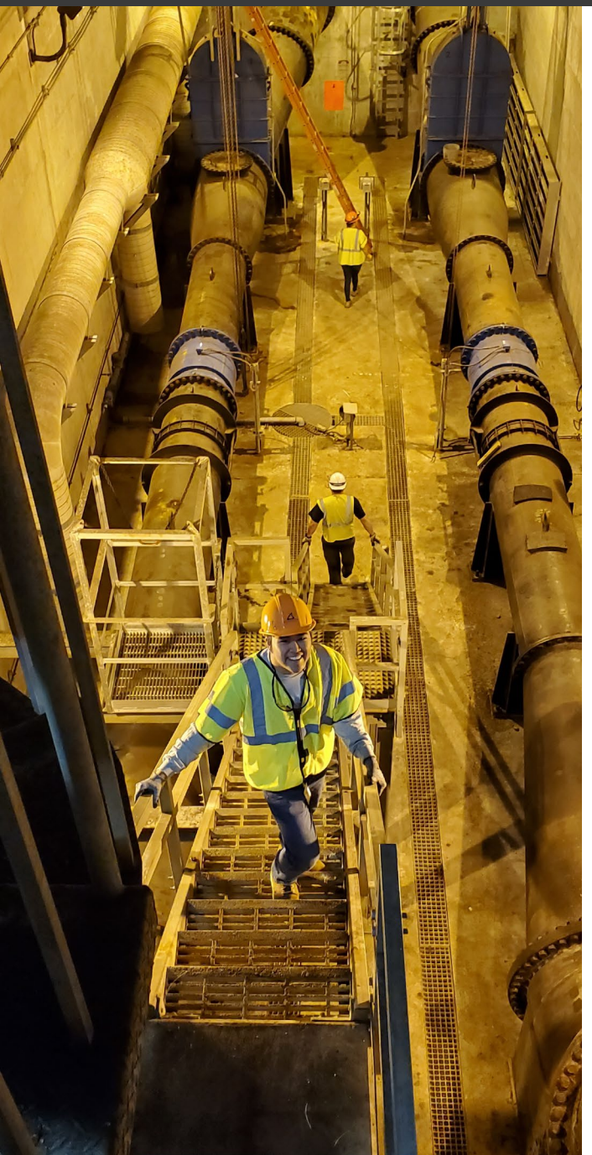
Corgan Archuleta

Introduction



Corgan Archuleta

- Macalester College
- Graduation Year: 2024
- Major: Geography and International Studies
  - Concentration in Urban Studies
- Environmental Services Geographic Information System (ES GIS)
  - GIS Wastewater Intern
  - Urban Scholar
- Mapping Underground Structures
- Interdisciplinary Projects

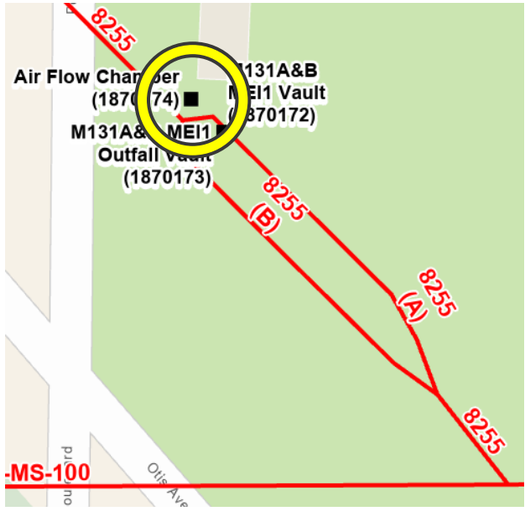
Mapping Underground Structures

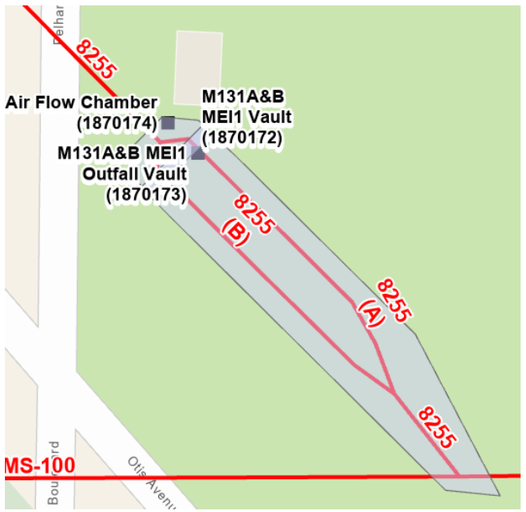
Project Goals

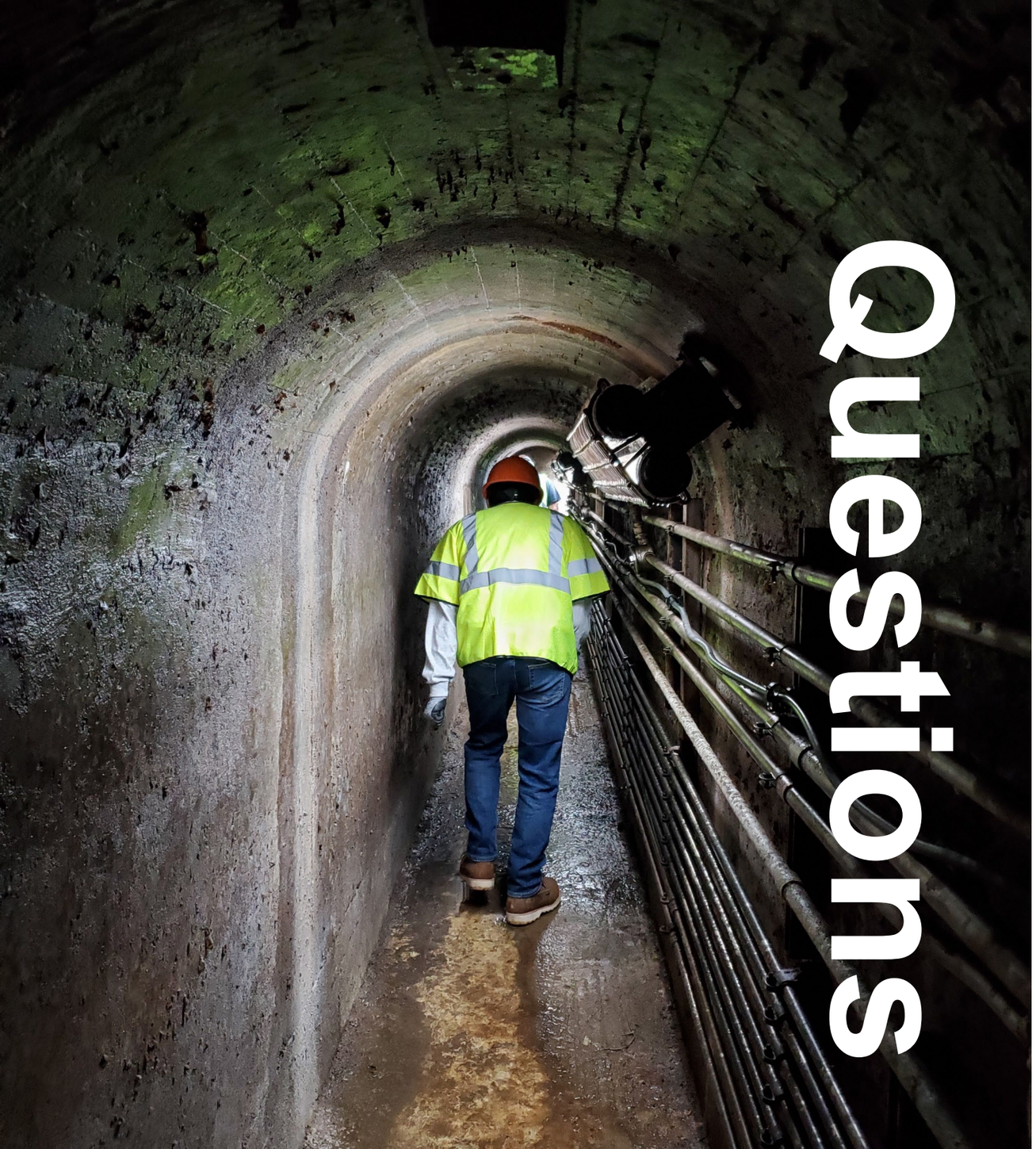
- Create new polygon shapes
- Edit metadata
- Refine data fields
- Track project progress

Project Skills

- Record drawing literacy
- Computer-Aided Design (CAD) Civil
- ArcGIS Pro
- Minnesota Metadata Editor







Corgan Archuleta

GIS Wastewater Urban Scholar Intern
Interceptor Services
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Odor Management Program

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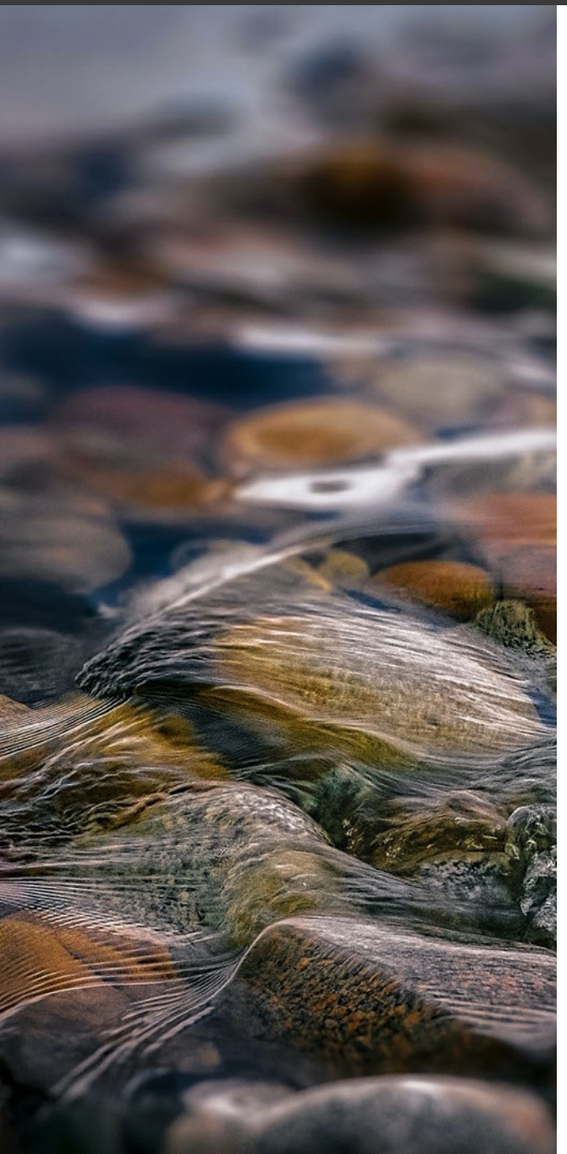
Environment Committee: August 9, 2022

Paul Weiler

Introduction



Paul Weiler

- University Of Minnesota
- Graduating 2022
- Major: Civil Engineering
- Odor Management Program

Odor Management Program

Key Highlights of Project / Career Impact

- Learned how to take air samples using:
  - Altair 4XR
  - AcruLog
  - OdaLog
- Learned the importance of working with other staff
- Improved communication skills
- Reading engineering documents and drawings
- Learned about and inspected different types of odor control units:
  - Carbon Filter
  - Biofilter

Developed a better understanding of interceptor facilities and their affect on surrounding communities

Questions

Paul Weiler

Civil Engineering Intern
Interceptor Engineer
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Metro Plant
Operator-Created Content

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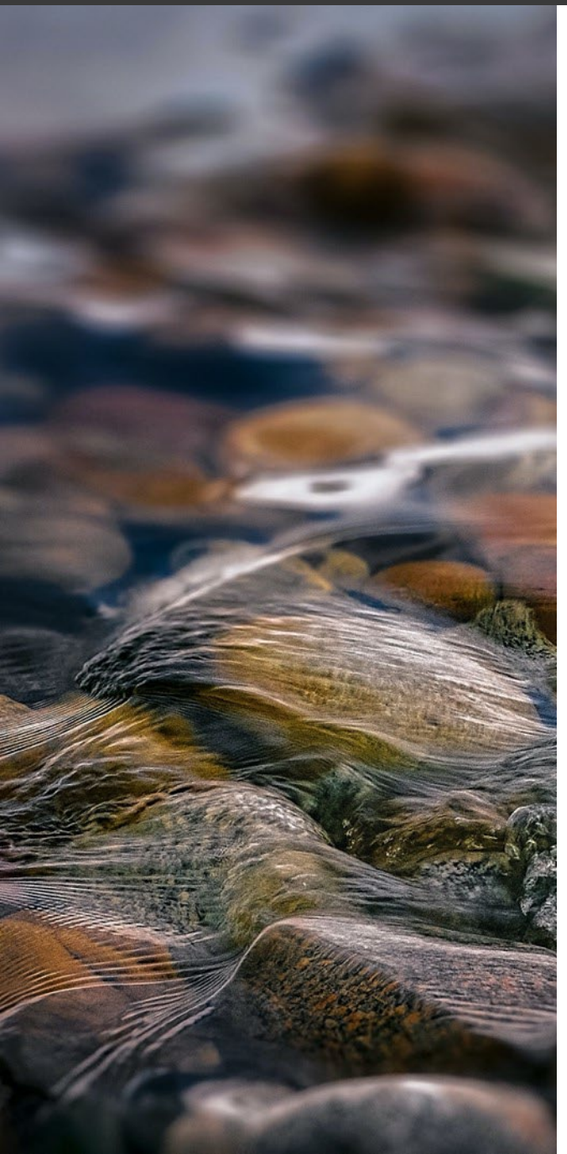
Carina Bjorklund

Introduction



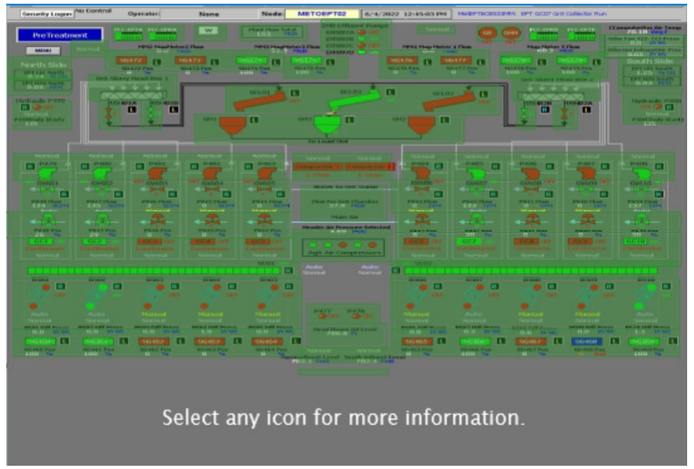
Carina Bjorklund

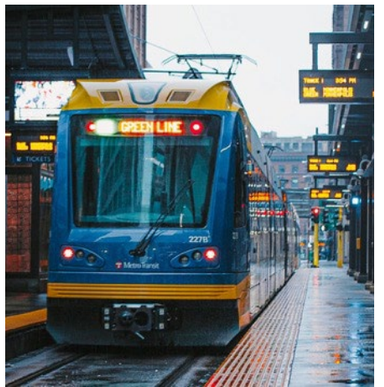
- University of St. Thomas
- Senior
- Major: Communication, Minor: Philosophy
- Metro Plant Operator-Created Content

Operator-Created Content

Key Highlights of Project / Career Impact

- Work is impactful
- Learning new skills
- Exposure to things outside assigned role
- Working with operators and being a part of something new
  - Diverse team
- Developing professional skills such as:
  - Software programs like Articulate 360
  - Teamwork and communication
- Building portfolio
- Strengthening resume





Questions

Carina Bjorklund

Visual Arts Intern, Operations Support Services
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