

PUBLIC INFORMATION MEETING, OCTOBER 13, 2022

WELL 19; LAKE MENDOTA DR.



Madison Water Utility



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Well 19 Treatment System Project

Madison Water Utility, Project Owner

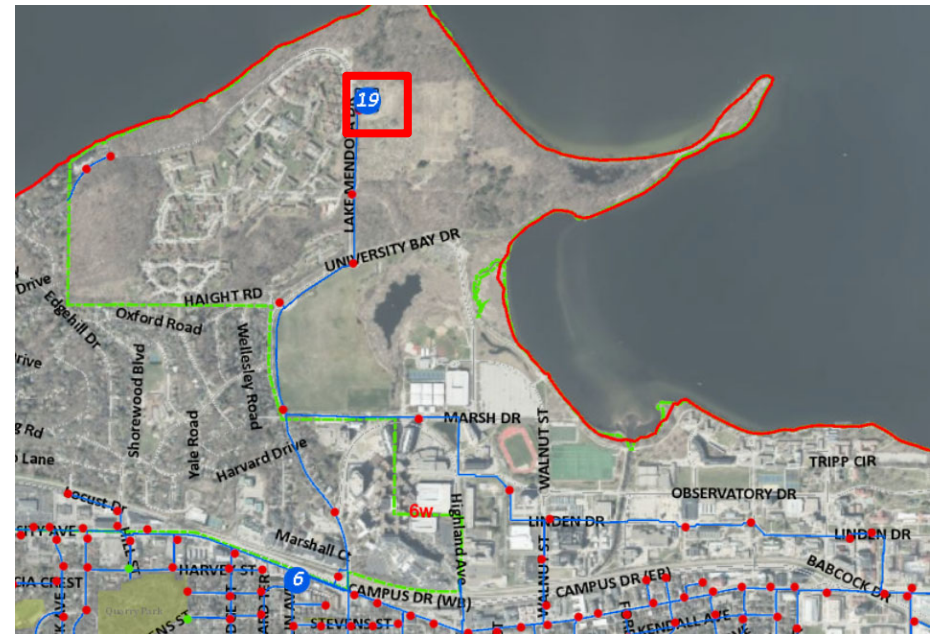
Short Elliot Hendrickson (SEH), Consulting Engineer

PRESENTATION OVERVIEW:

- Introductions: Alder Vidaver, Design Team
- Well 19 Location & Background
- Project Need & Objectives
- Preliminary Design Options
- Final Design Development
- Project Schedule
- Q & A; Public Input; Tour

LOCATION & BACKGROUND: WELL 19

The facility is situated on an easement on University of Wisconsin-Madison property



Well 19 is located east of Eagle Heights, North of the community gardens and west of Picnic Point

LOCATION & BACKGROUND: WELL 19

Constructed in 1974, it includes a well house and buried 3-million gallon reservoir



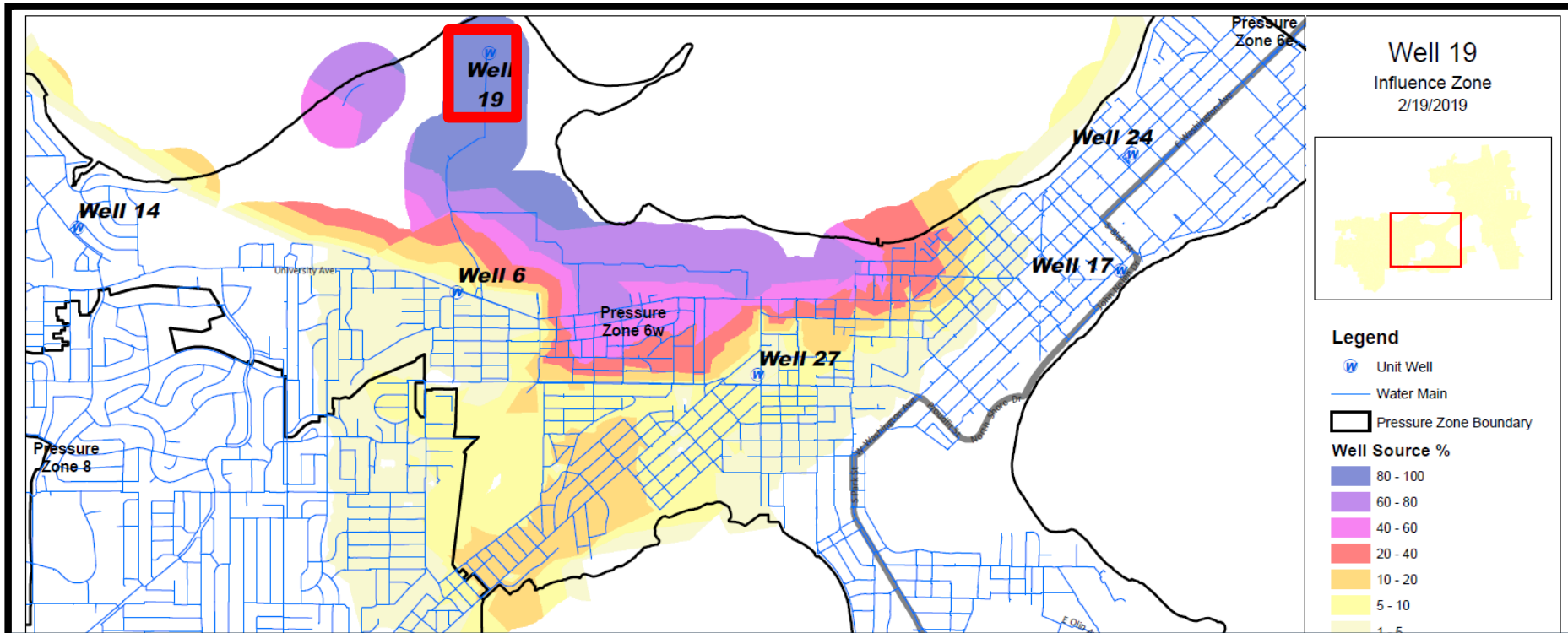
The buried reservoir: facing south



The well house: facing north



The well house entrance: facing west



Well 19 primarily serves the University of Wisconsin campus area, the Village of Shorewood Hills and is a significant supply point for the entire near west side of Madison

PROJECT NEED / JUSTIFICATION

- There are three, naturally-occurring contaminants in Well 19's water
- At Water Utility Board Policy levels, action to mitigate contamination is required

Contaminant	Primary MCL (Enforceable)	Secondary MCL (Non-Enforceable)	Water Utility Board Policy	Well 19 Results
Radium	5 pCi/L	--	4 pCi/L	4.1 pCi/L*
Manganese	--	0.05 mg/L	0.02 mg/L	0.045 mg/L
Iron	--	0.3 mg/L	0.1 mg/L	0.2 mg/L

* Running Annual Average

- Due to poor water quality the utility self-limits production— **currently only 30% of annual capacity, on average, is utilized**

PROJECT OBJECTIVES

1. **Reduce** iron, manganese, and radium levels at Well 19 through the addition of a filtration system
2. **Improve** water quality to optimize use of this critically important supply point
3. **Upgrade** the original pumps and electronic controls for more energy-efficient operations

PRELIMINARY DESIGN OPTIONS 1 & 2

#1: Vertical expansion of existing building with external backwash (BW) tank



#2: Addition to the existing building with external backwash (BW) tank



ENVIRONMENTAL & SOCIAL IMPACTS

Table – 1
Environmental and Social Impacts

	Option – 1	Option – 2
Post-construction impacts to long-term maintenance	Significant	Negligible
Construction impacts to well operation and water supply	Significant	Negligible
Impacts on the viewsheds from Eagle Heights and the Lakeshore Nature Preserve	Negligible	Moderate
Increased impervious area	Moderate	Moderate
Site disturbance during construction	Moderate	Moderate

COST IMPACTS

Table – 2
Estimated Cost Comparison

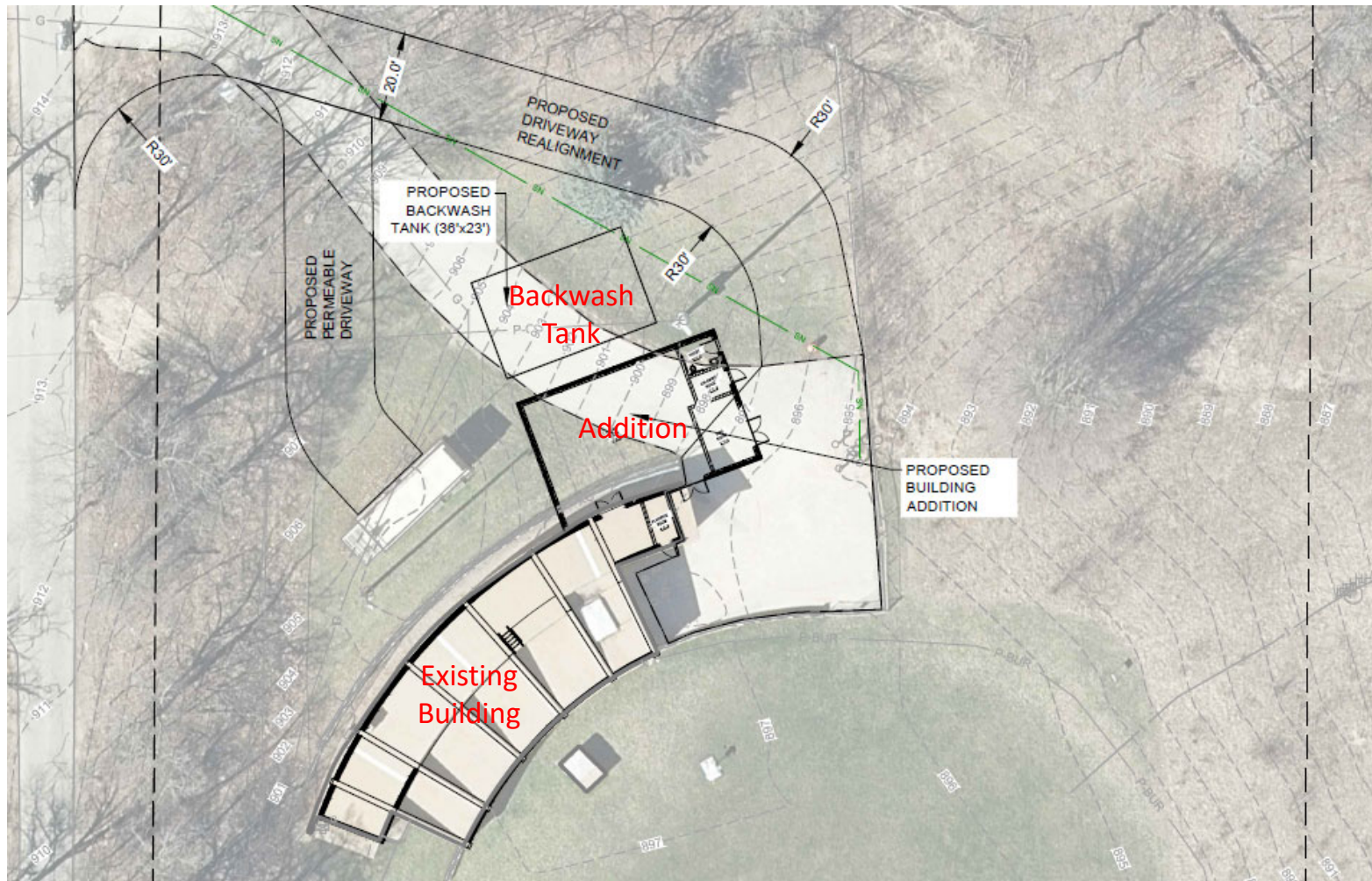
	Option – 1	Option – 2
Construction Cost	\$6.8M	\$6.8M
Annual O&M Costs	\$36K	\$44K
50-Year Lifecycle Cost	\$12.4M	\$12.8M

- Option 2 is more desirable from a social and environmental perspective
- Option 1 is slightly more desirable from a financial perspective
- Utility staff recommended Option 2
- The minimal additional cost compensates for the greater social and environmental benefits of Option 2.

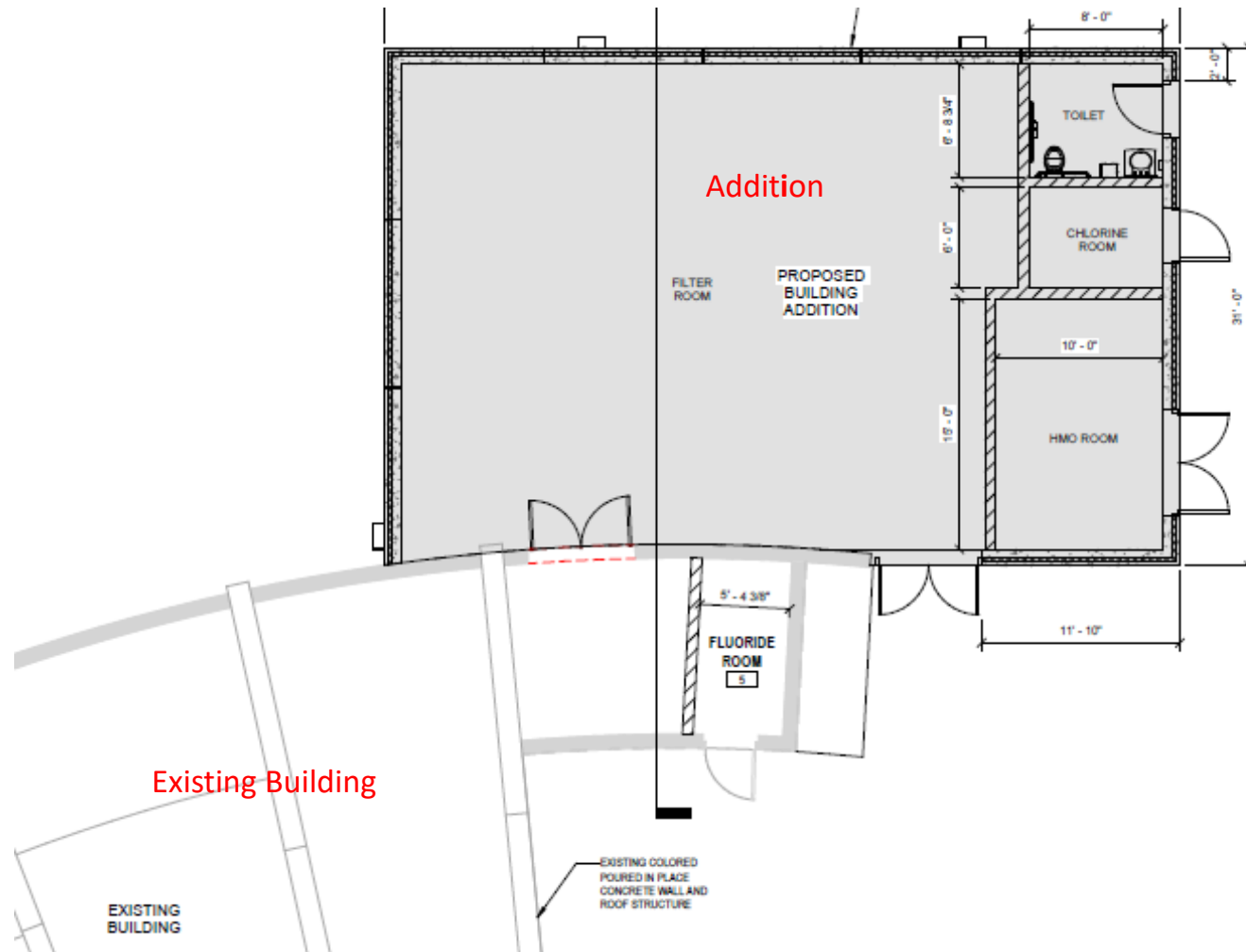
WU BOARD APPROVES OPTION 2

- At its September meeting, the Water Utility Board unanimously approved staff's recommendation to move Option 2 to final design
- Pending Regulatory Approvals:
 - Dept. of Natural Resources (safe drinking water)
 - Public Service Commission (impact to rate-payers)
 - City Planning Commission (building code compliance)

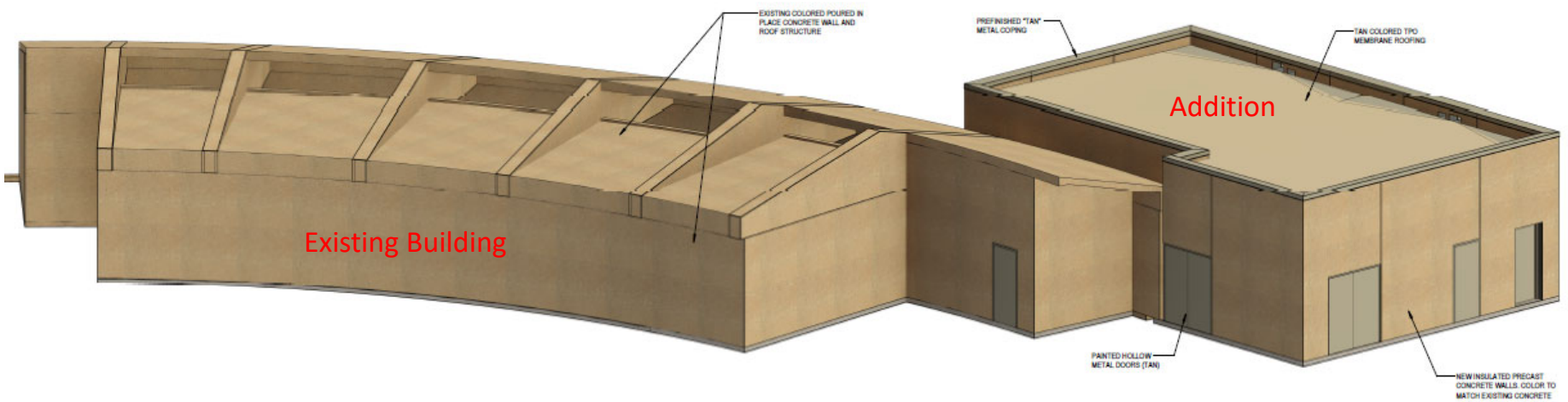
FINAL DESIGN: AERIAL VIEW



FINAL DESIGN: FLOOR PLAN

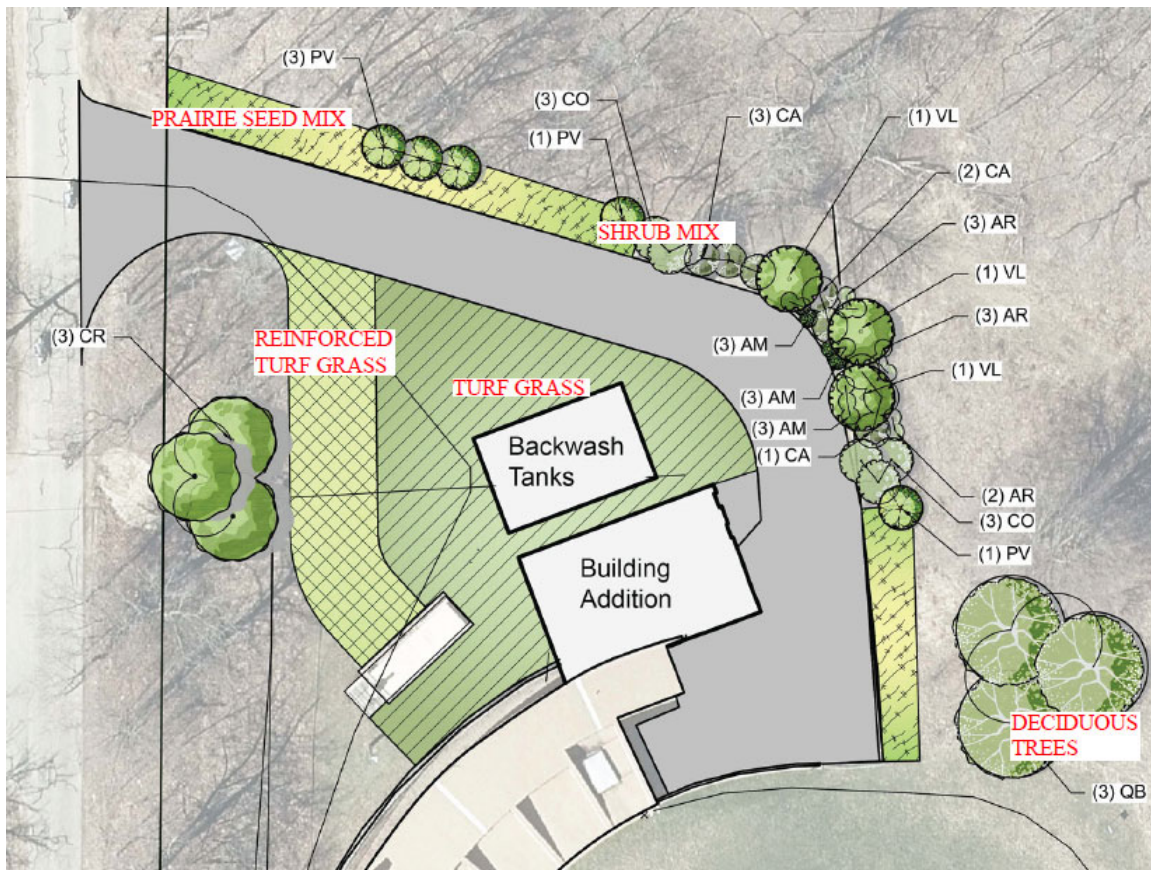


FINAL DESIGN: ELEVATION VIEW



Looking northwest toward Eagle Heights

FINAL DESIGN: LANDSCAPE PLAN OVERVIEW



- Focus on screening using Wisconsin native species
- Developed with input from Lakeshore Nature Preserve and UW Landscape Architects
- Matches recent plantings in adjacent Preserve
- Dense: fills low, mid-range and high canopy

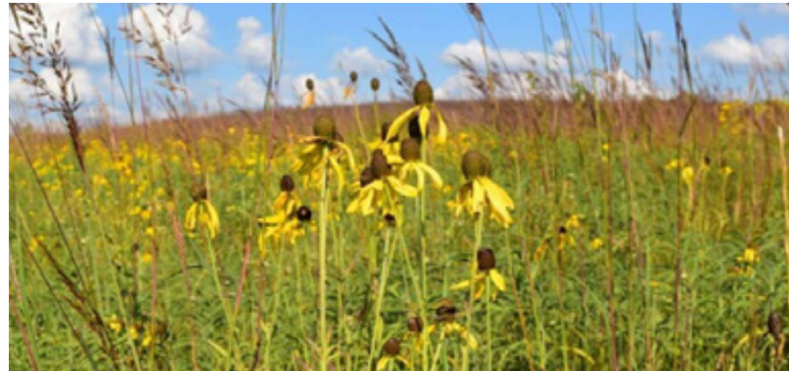
FINAL DESIGN: LANDSCAPE PLAN

EXAMPLE SPECIES

Trees: Swamp White Oak



Shrubs: Gray Dogwood



Prairie Seed Mix: Gray-Headed Coneflower

FINAL DESIGN: LANDSCAPE PLAN BEFORE & AFTER: UPPER SITE



FINAL DESIGN: LANDSCAPE PLAN BEFORE & AFTER: LOWER SITE



PROJECT SCHEDULE

- **Preliminary Design:** Completed September 2022
- **Final Design:** September 2022 to March 2023
- **Bidding & Construction Contract Award:** April 2023 to June 2023
- **Construction:** July 2023 to July 2025 (two-year construction duration due to supply chain issues for specialized equipment)

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Project Website: cityofmadison.com/water/projects/well-19-iron-manganese-radium-treatment

- Latest news
- Subscribe to receive project updates

Social Media:



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Contacts:

- Project Manager – Kelly Miess, kmiess@madisonwater.org
- General inquires – water@madisonwater.org, (608) 266-4641

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