

JOINT CAMPUS AREA COMMITTEE: JAN 27, 2022



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

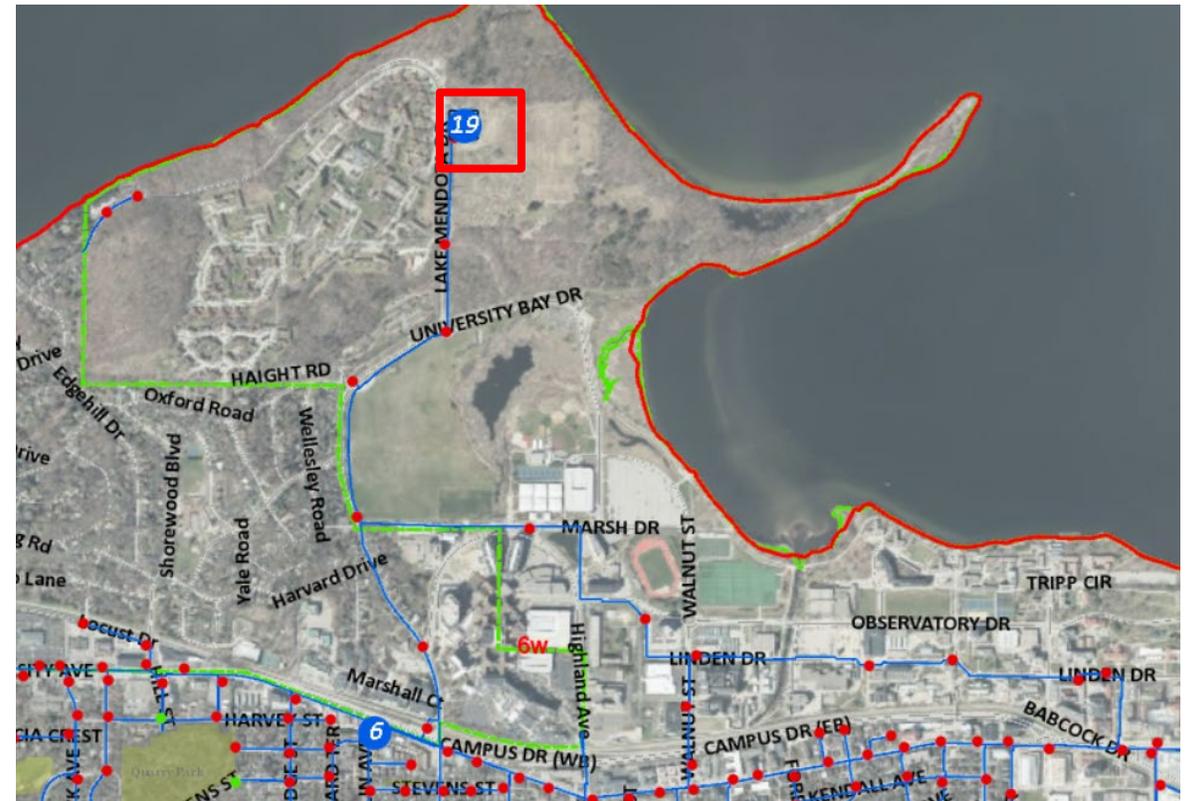


Madison Water Utility

Unit Well 19 Proposed Treatment Addition:
Project Introduction / Conceptual Phase

LOCATION & BACKGROUND

Well 19 is located on Lake Mendota Dr. on a 260' x 260' easement on UW-Madison property between Eagle Heights & the Lakeshore Nature Preserve



LOCATION & BACKGROUND

The facility was constructed in 1974 and includes the well house and a buried 3-million gallon reservoir



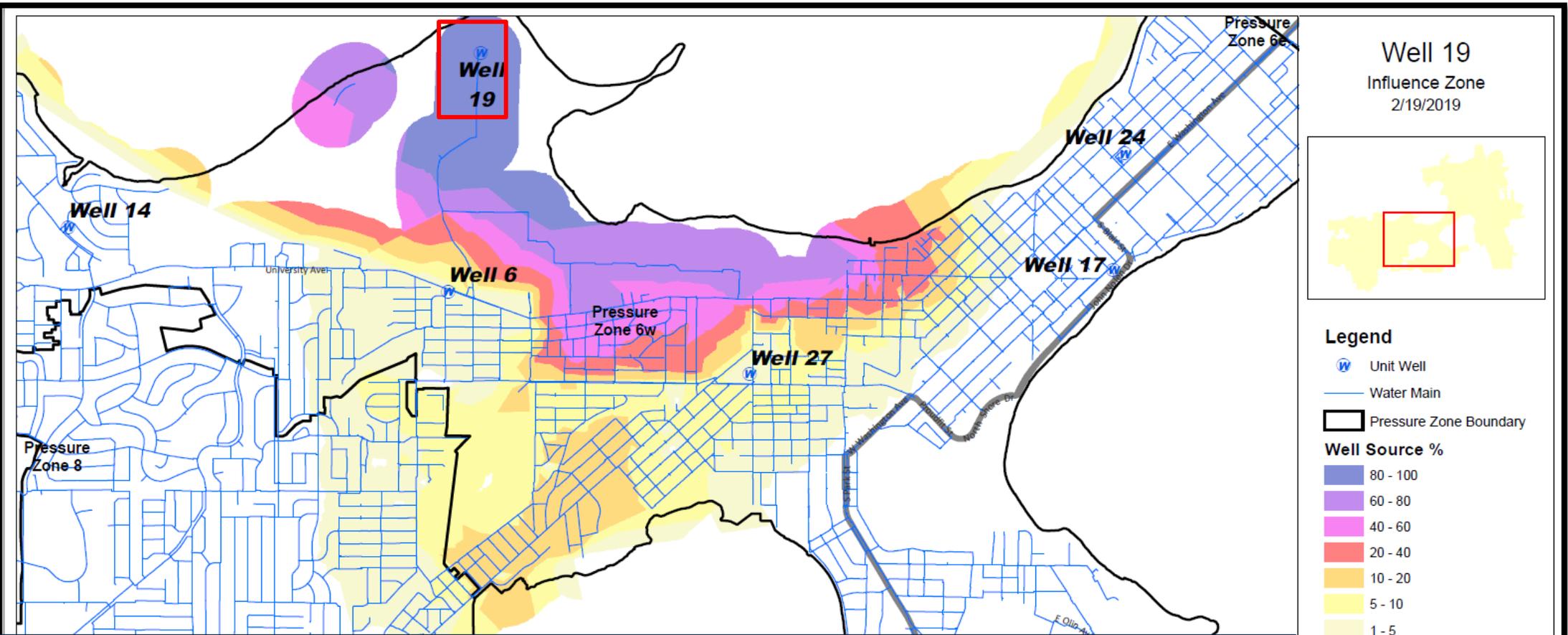
The buried reservoir: facing south



The well house: facing north



The well house entrance: facing west



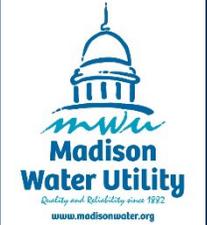
Well 19 primarily serves the University of Wisconsin campus area and the Regent neighborhood and is a significant supply point for the entire near west side of Madison



NOT TO SCALE



PROJECT NEED / JUSTIFICATION



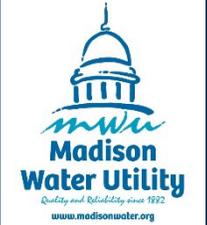
- Well 19 water quality **does not meet MWU Water Utility Board standards**
- Radium & manganese periodically **exceed Federal primary and secondary Maximum Contaminant Levels**

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

- Unable to maximize facility use due to poor water quality – **currently only 30% of annual capacity, on average, is utilized**

PAST PROJECT PROGRESS



2018: Evaluated treatment alternatives; completed pilot test of filter options

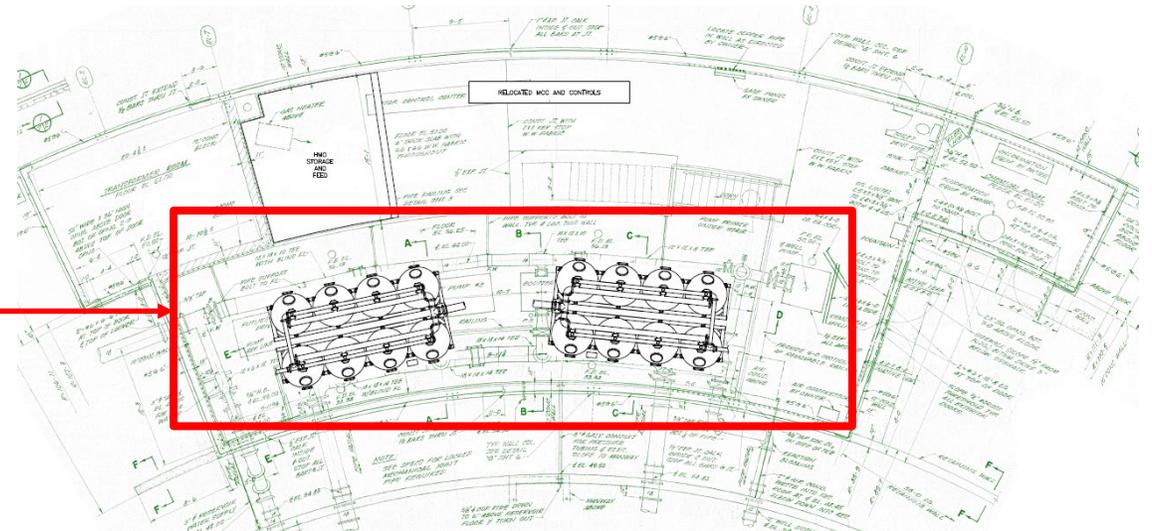
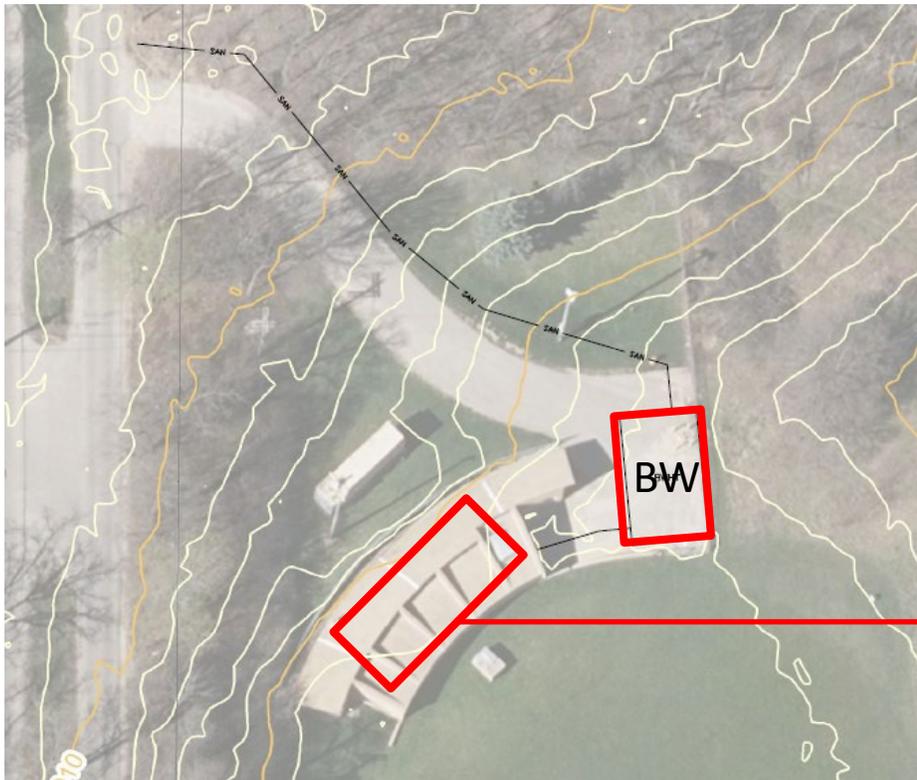
2019: Received pilot test and conceptual design reports

Recommendation: Pyrolusite filter system with (16) 48-in diameter vessels

- Option 1: Filter vessels in existing building; addition of new backwash tank
- Option 2: Filter vessels and backwash tank in newly constructed building

CONCEPTUAL DESIGN OPTION 1

Option 1: Filter system in existing building with new backwash (BW) tank

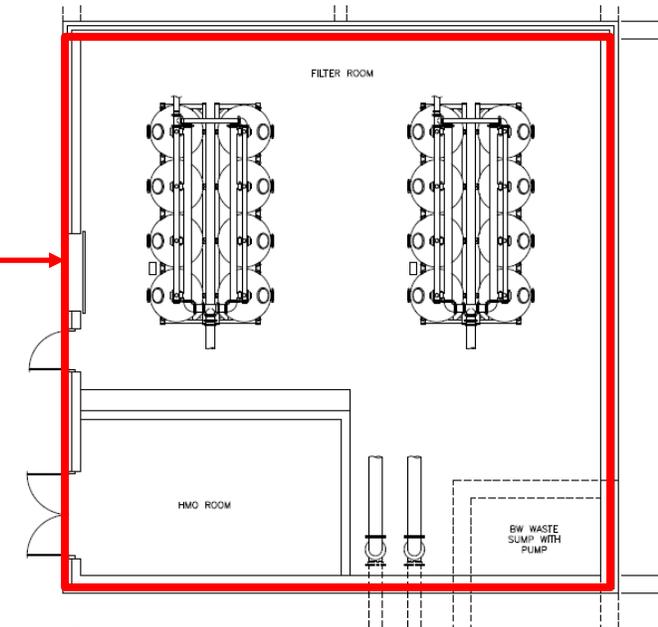


Design Features:

- Vertical expansion of existing well house
- Addition of new backwash tank building

CONCEPTUAL DESIGN OPTION 2

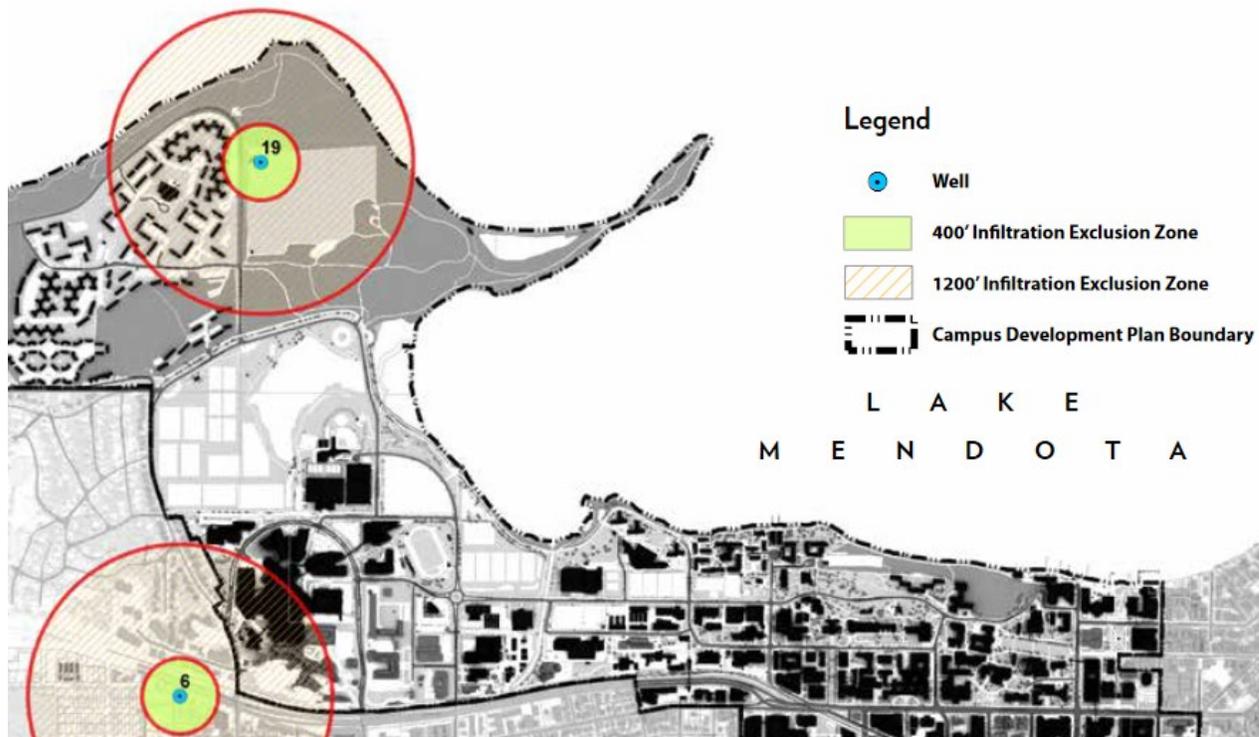
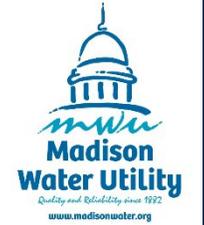
Option 2: Filter system and backwash tank in newly constructed building



Design Features:

- New construction to house filter system
- No vertical expansion of existing building

CAMPUS MASTER PLAN ANALYSIS

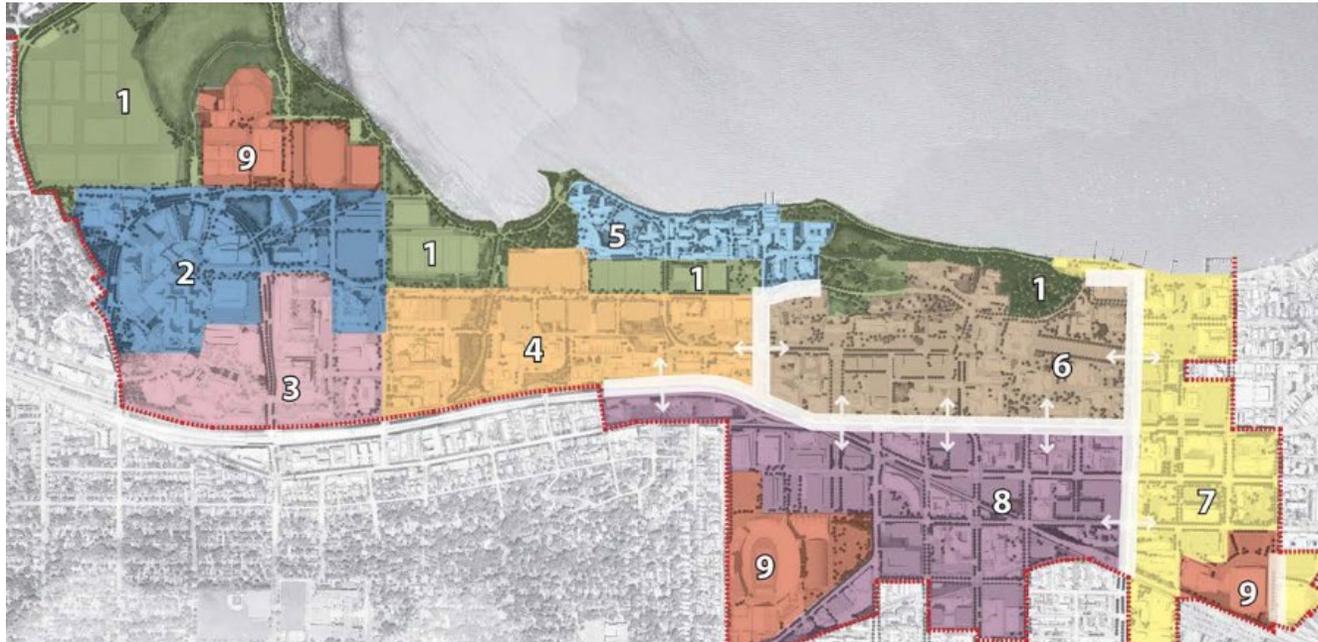


- Wellhead Protection Areas (WHPA) around three Madison wells are identified in the Green Infrastructure & SW Mgmt. Master Plan
- The use of infiltration practices is prohibited or limited within these areas
- The project will not alter the size or characteristics of the WHPA around the Well 19

CAMPUS MASTER PLAN ANALYSIS



- Well 19 not included among the Campus Design Neighborhoods

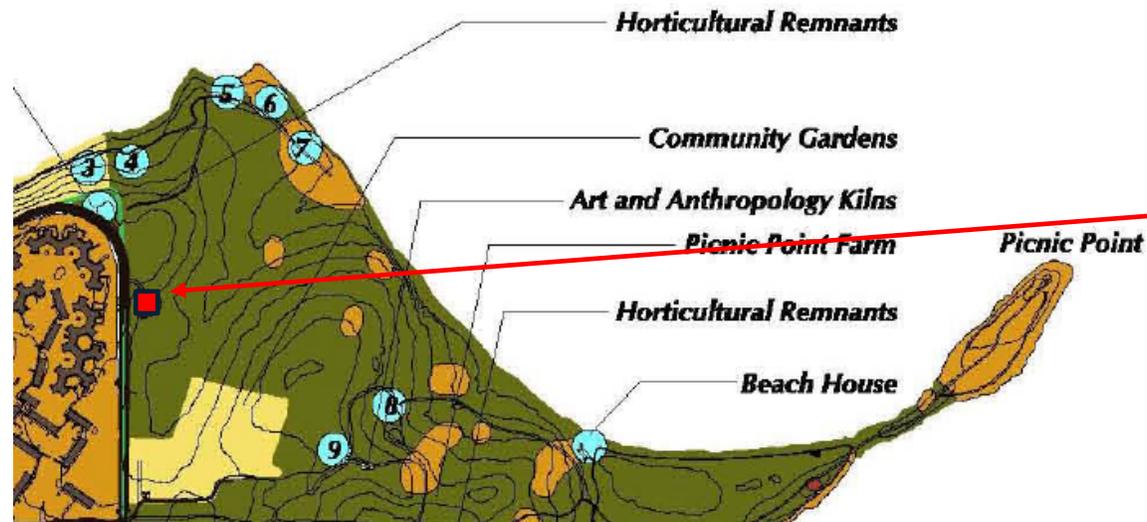


- No mention of the facility in the Master Plan Technical Report
- Well 19 is located within the Lakeshore Nature Preserve

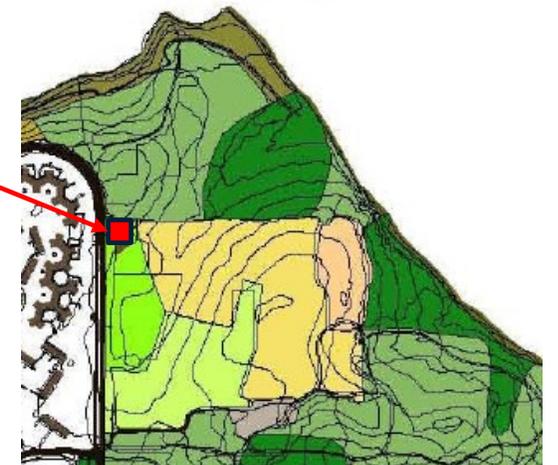
LAKESHORE PRESERVE MASTER PLAN



The facility upgrade is not anticipated to impact Lake Mendota or any historically, culturally, or environmentally sensitive areas of the Lakeshore Nature Preserve



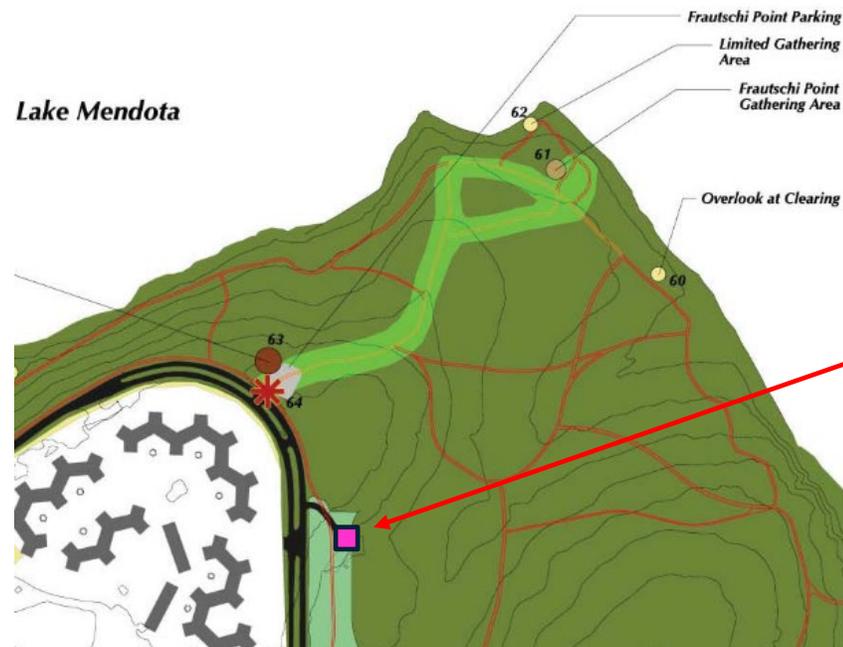
Well 19



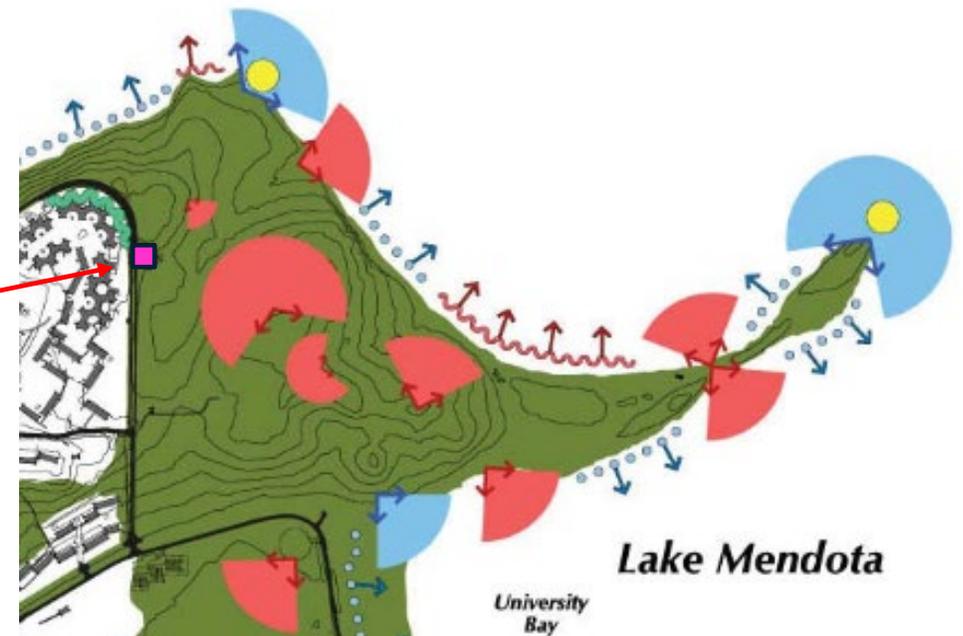
LAKESHORE PRESERVE MASTER PLAN



The facility upgrade is not anticipated to impact existing or proposed circulation routes or view sheds



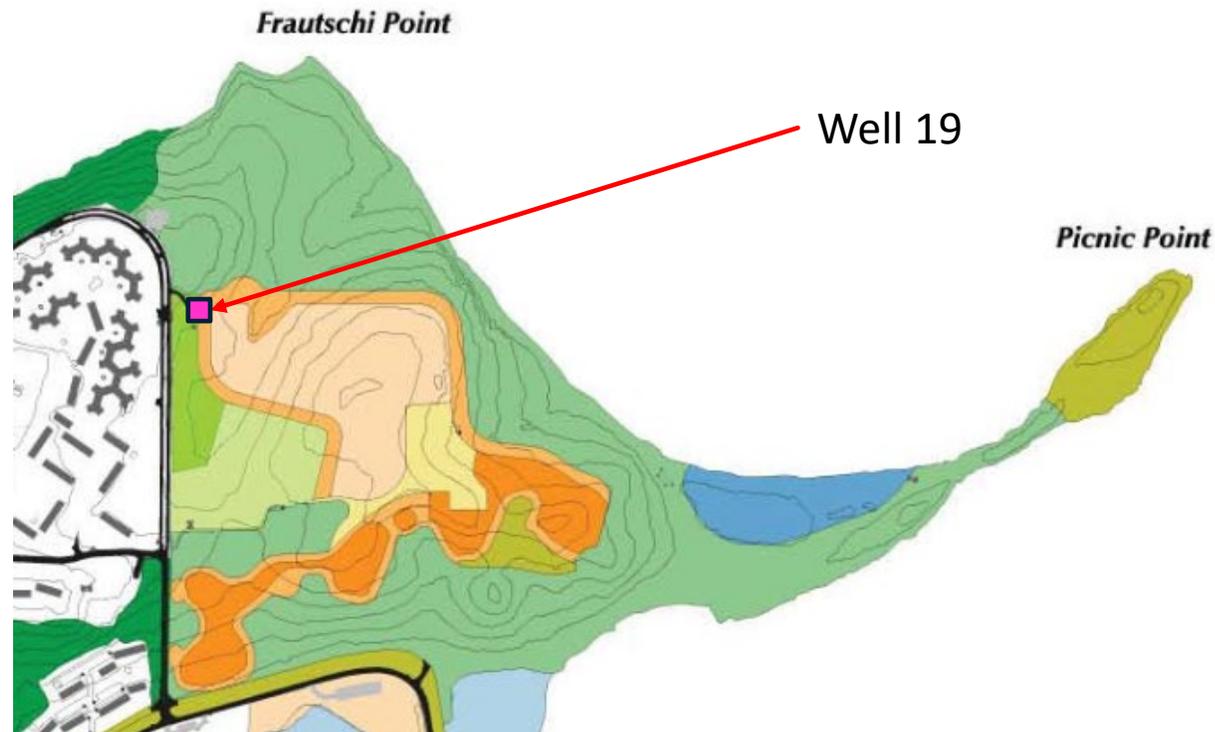
Well 19



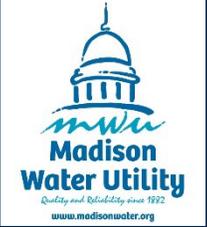
LAKESHORE PRESERVE MASTER PLAN



The facility straddles the CALS and Savanna Transition vegetation zones



PROJECT & UW REVIEW TIMELINE



- Preliminary Design Development: March 2022 to Jun 2022
- DRB/JCAC Schematic Design Review: May or June 2022
- Final Design Development: July 2022 to Jan 2023
- DRB/JCAC Design Development Review: October or November 2022
- Bidding & Construction Contract Award: Feb 2023 to March 2023
- Construction: May 2023 to May 2024



Questions / Comments?

Contact Information (project co-leads):

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