



Unit Well 11 Existing Site & Proposed Generator
Letter of Intent for Urban Design Commission
June 22, 2023 (Updated)

Project Description

Madison Water Utility and Madison Gas & Electric have reached an agreement to install an electrical emergency backup generator on Madison Water Utility's existing Unit Well 11 site. The existing Unit Well 11 facility was constructed in the late 1950's; no Conditional Use permit currently exists for either the existing facility or the proposed generator.

The proposed generator has a standby rating of 600kW and will be programmed to operate upon the following conditions:

- Loss of standard electrical service to the well facility.
- Periods of peak electrical demand to support both the well facility and the greater power grid.
- Routine testing and maintenance.

Similar agreements exist on ten other Madison Water Utility sites and have benefited both agreeing parties and the public by adding resiliency to water and power supply services.

Existing Conditions

The Unit Well 11 facility is located on the west side of Stoughton Road along Dempsey Road. The original well and pump house was built in 1956 and was designed by Water Utility engineering staff. The rough limestone in an ashlar pattern is seen on many wells throughout Madison that were built during this era and is easily recognizable as a Water Utility facility. On the southern portion of the site, a 150,000-gallon reservoir with the same aesthetic complements the well facility.

The facility pumps water to Pressure Zone 6e at a pumping capacity of 2300 gallons per minute. It operates year-round and serves Madison's East side including the Emerson East, Eken Park, Marquette, Schenk-Atwood, Hawthorne, and Worthington Park neighborhoods as well as homes in Burke Heights, Hiestand, Rolling Meadows, and Eastmorland.

Site Changes

The generator is proposed to be set onsite as shown in the drawings included. The unit is approximately 8' x 26.5' and 13' tall. A concrete pad will need to be poured so that the generator can be properly set; the pad dimensions will be approximately 10.25' x 26.5'.

The intent will be to set the generator on the west portion of the site, behind the existing building and reservoir relative to Dempsey Road. Additional screening of the generator will be provided by a wooden fence and landscaping as shown on the submitted plans.

Site Address

102 Dempsey Road

Proposed Design & Materials

Regarding the proposed design for the project, we intend to incorporate a perimeter fence measuring 51.50 feet by 20 feet to effectively screen the generator. The fence will be constructed using cedar lumber. Further details regarding the fence's specifications and generator layout can be referenced in the submitted plans, along with complimentary landscaping proposals.

Land Use Zoning Approval

The project and site is being submitted to be zoned as a Conditional Use through the Plan Commission.

Anticipated Project Schedule

May 30, 2023	Conditional Use Application Submittal
July 24, 2023	Plan Commission Review & Hearing
September 5, 2023	Start of Installation
October 13, 2023	Installation Completed

Project Team

Madison Water Utility 119 East Olin Avenue Madison, WI 53713	Peter Holmgren, PE
--	--------------------

Madison Gas & Electric Company 623 Railroad Street Madison, WI 53703	Angie Johnson
--	---------------

Building Size

Existing Building:	1,105 SF
New Generator Equipment:	310 SF
Total Area:	1,415 SF

Auto and Bike Parking Stalls

There exists room for 2 maintenance vehicles to be parked on site. There are no bike parking stalls; the only visitors to the facility are staff.

Lot coverage & Useable Open Space

Total Lot Area:	~17,969 SF	
Building/Equipment/Paved:	~7,925 SF	(~44 % Coverage)
Total Open Area:	~10,044 SF	(~56% Open)

Hours of Operation

The existing well and pumps are equipped to run 24 hours a day. The station is visited by Water Utility staff approximately once per day to check on the facility operations and to take readings. Most operations are otherwise monitored remotely.

The proposed generator will be programmed to operate in the event of lost standard electrical service to the well facility, or high demand from the greater power grid. Both are rare circumstances; in the last 3 years, other generators connected to the same substation have been activated a total of 6 times, running between 0.75 and 3 hours in each instance. The generator will also be run once a month for approximately 30 minutes for testing and maintenance purposes.