



Municipal Water District Pump Station Design

What's the Problem?

The Menlo Park Municipal Water District [pump station](#) in Sharon Heights is almost 50 years old and nearing the end of its useful life. Since 2001, both emergency and preventive maintenance costs have averaged thousands of dollars per year. Several other limitations on the existing pump station require new construction:

1. The pump station was constructed with submersible (underground) pump/motor units. Underground units require special equipment for servicing and maintenance. Whenever maintenance is required, a crane and truck must be hired to remove the unit and transport it to a workshop. Modern pump stations are generally built above-ground with hoisting equipment to allow maintenance and service on site, reducing costs.
2. The pump/motor parts are no longer being manufactured. The units installed in the early 1960's are no longer sold. Parts for the units can no longer be bought "off the shelf" but must be fabricated on special order. The cost of fabricating parts to fit the old machinery has become prohibitive. The next time a unit needs service, the maintenance department will have to purchase a whole new unit at a cost of over \$37,000, plus \$3,500 to \$4,500 for installation. The cost of a new pump station is expected to be less than \$2 million.
3. The pump station should be protected by a building. To minimize noise and improve security, the pump equipment and controls should be housed within a building.
3. A permanent backup source of energy is not currently available. The portable generator currently at the site has only enough electrical output to run one of the three existing pumps. A permanent and reliable backup generator is needed.
4. Remote control capacity was limited. In early 2009 the City installed an updated remote control system which now allows the pumps to operate at peak efficiency during hours when electricity prices are lowest while ensuring adequate water supply throughout the year. This new control system will ease the transition to the new pumps and motors that will be installed to replace the old.

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1. The pump station will be completely rebuilt. An equipment upgrade would not adequately address the problems.
2. To avoid unnecessary piping costs, the location of the new pump station must be next to the Hetch Hetchy pipeline, near Sharon Park Drive & Lassen Drive. The City has owned this site since the pump station was first installed and it would not be feasible to purchase a new site.
3. The Menlo Park City Council will make the final decision about the design of the new pump station, based on input from the community and recommendations from the engineering consultant and Planning Commission.

A Brief History

In the late 1950's, the City entered into an agreement with Stanford to provide water and fire protection to the proposed linear accelerator (SLAC). A reservoir was built on land leased from Stanford and in 1962 a pump station was installed ([location](#)) to send water from the Hetch Hetchy system to SLAC, the reservoir, the Sharon Heights Golf and Country Club and homes nearby.

During the 1960's and 1970's the Sharon Heights neighborhood expanded to include approximately 700 new homes, 60 businesses and 40 multi-family residences. The Menlo Park Municipal Water District (MPMWD) built another reservoir in 1997 and continues to supply water to this 1.2 square mile area.

Even though the 1962 pump station is still functioning adequately, the technology is out of date. It needs to be replaced to improve power efficiency and to ensure water system reliability for future generations.

How the process will work

2009, December through August 2010 – Consultant prepares Preliminary Design document and Planning application packet.

2010, September – Planning Staff and Planning Commission review architectural, sound and environmental aspects of design.

2010, November – City Council reviews selected design.

2010, November through January 2010 – Consultant prepares final plans and specifications for public bidding by construction contractors.

2011, February – City Council award of construction contract.

2011-2010, March through March – Construction of new pump station.

Past Activities

2010, May through August – Consultant completion of Preliminary Design Report and Planning Submittal and review by City staff.

2009, December – Informational community meeting and [slideshow](#) (large file) for water customers to view design options, discuss construction impacts and provide comment.

2009, November – City mailed [invitations](#) to December 7 community meeting. It was sent to 1590 Sharon Heights residents and businesses.

2009, June through September – Consultant researched planning, building and fire codes to determine possible building sizes and layout options that might be allowed on the site, then developed two conceptual plans. Consultant also researched potential control systems for Pump Station Replacement and ran computer model scenarios to determine necessary pump sizing.

2009, May – Consultant conducted surveying and soil investigation at the site to assist them in developing design options.

2009 May – [Mailing](#) to about 400 nearby water customers informing them of upcoming surveying and soil research work at the site.

2009, March - City Council awarded a contract to Carollo Engineers to assist staff in developing design options. (Staff Report [#09-048](#))

2008 December - City staff interviewed three consultants, then selected and began contract negotiations with Carollo Engineers.

2008 September and October - City published a request for qualifications for project design and received responses from six engineering consultants.

2008 February – City Council approved Sharon Heights Pump Station Replacement Design funds for use in 2008-09 fiscal year.

How to get involved:

Your input throughout this process is essential to planning and building a pump station that will best serve the needs of the Menlo Park community now and in the future. You can help by attending meetings or sending comments or questions to:

Virginia Parks, Associate Engineer
(650) 330-6740
vkfparks@menlopark.org

Check this website to stay up-to-date on project activities.

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