



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by WMM Date 4.11.07
General Manager

DATE: April 4, 2007
TO: General Manager
FROM: Senior Engineer
SUBJECT: Call for Bids for Installation of Fire Protection Pumps and Appurtenances

RECOMMENDATION: That the Board of Directors authorize staff to call for bids for the installation of fire protection pumps and appurtenances at the existing water storage tank. Funds for this work are available in the FY 2007-2008 Capital Outlay Budget.

BACKGROUND

In June 2006, staff reported to the Board that the water supply normally produced by the Brown Bulb well had become unavailable, due to continued infiltration of packing sand into the well casing as a result of a hole in the casing. The Brown Bulb well is a critical asset to the Monterey Regional Waste Management District (District), as it furnishes fire protection water for the District facilities. Staff was directed to conduct a study to evaluate the options available to provide the necessary fire suppression water for the District. Staff retained a local consultant, Utility Services, to assist in the evaluation of the various engineered solutions. The Water Systems Master Planning Report has been completed, and the chosen option is to not drill a new deep well (at a cost of over \$200,000), but to patch the hole in the casing and insert a new smaller 3-horsepower (hp) submersible pump in the well, replacing the much larger 60 hp pump, which was pulling sand into the casing. As a result of these repairs, the production rate of the well has been reduced from over 300 gallons per minute (gpm) to 32 gpm.

The City of Marina Public Safety Department has been consulted as to the adequacy of the District's fire protection system. Fire Chief Harald Kelley has indicated that even with the previous flow rate of 300 gpm, the system was deficient in being able to deliver adequate fire flows. This deficiency must be remedied in order for the District to secure a County Building Permit for two upcoming projects: the scale kiosk expansion and the Last Chance Mercantile portable tent structure. As discussed in Fire Chief Kelley's letter to the District (dated January 9, 2007, attached), the District must be able to deliver the required water pressure and volume so the fire sprinklers will operate hydraulically as designed with no delay. This will entail the installation of a fire pump and jockey (booster) pump to maintain pressure in the system. Chief Kelly has stated that the existing fire protection water storage capacity, at 92,000 gallons, is adequate for now, but will have to be increased prior to any future expansion of the District's Materials Recovery Facility or any other substantial facilities expansion project.

Utility Services has been working with District staff to develop plans and specifications and bidding documents for the required fire protection pump station. The pump station will draw water directly from the existing 92,000 gallon storage tank into the existing fire suppression distribution system. The proposed skid-mounted pumping equipment will be enclosed in a 12' x 18' building to be located adjacent to the existing water storage tank. The pump station will include a large capacity 1,000 gpm fire pump (50 hp) to provide fire suppression flows to the building sprinkler systems and fire hydrants. A smaller 45 gpm jockey pump (3 hp) will be provided for the continuous pressurization of the fire suppression system. The pumps will be driven by electric motors supplied with power from the District's Landfill Gas electrical generation and distribution system. All necessary controllers, valves, meters, and connecting piping will also be furnished. The pumping system will be designed in accordance with the requirements of the Uniform Fire Code and the Marina Fire Department. Prior to finalizing the pump station plans and specifications, the District will obtain approval from the Marina Fire Department.

COST AND SCHEDULE

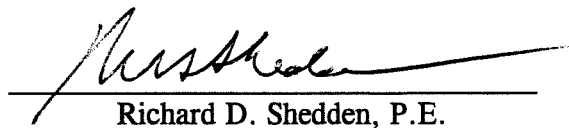
The preliminary engineer's cost estimate for the proposed improvements is under \$100,000. A detailed breakdown of the cost estimate will be provided when it is completed.

The proposed project schedule is attached. The schedule calls for a bid opening date of May 25, 2007, with an award of the construction contract by the Board at the June Board meeting. Completion of all improvements is expected by mid-September 2007.

CONCLUSION

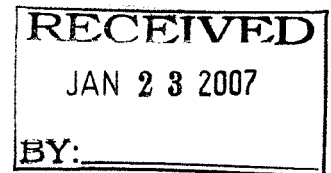
At this time, staff is requesting authorization to proceed with a call for bids for the installation of the fire protection pumping system. With Board authorization to call for bids, we anticipate bringing a recommendation to award a construction contract to the June 15, 2007 Board meeting.

It is therefore recommended that the Board of Directors authorize staff to for call for bids for the installation of the fire protection pumping system, at the existing 92,000 gallon water storage tank. Funds for this work are available in the FY 2007-2008 Capital Outlay Budget.


Richard D. Shedden, P.E.

Attachments

City of Marina
AT MONTEREY BAY
PUBLIC SAFETY DEPARTMENT



January 9, 2007

Richard Shedden, P.E.
MRWMD
14201 Del Monte Blvd.
Marina, California 93933

Dear Mr. Shedden,

This letter is a follow-up to our meeting held on January 8, 2007 regarding deficient fire support/pressure system that currently exists at the land fill located in Marina.

It appears that the existing on-site water storage system was designed using the NFPA 13 water demand requirements for a hydraulically designed occupancy hazard fire control sprinkler system.

Applying this standard, the existing fire sprinkler system located at the Material Recycling facility (MRF) located at 14201 Del Monte Blvd was designed as an Ordinary Hazard Group Two System. The fire sprinkler demand which is 600 gallons per minute and adding combined inside – outside hose flow which is 250 gallons per minute totals to 850 gallons per minute demand with a required duration of 90 minutes.

This totals to an onsite storage capacity of 76,500 gallons of water that must be available. The existing 90,000 gallon storage tank is sufficient to meet this requirement. What appears to be lacking in the overall system are two things, (1) adequate recovery and (2) a method to deliver the required pressure and volume so the fire sprinklers will operate hydraulically as designed with no delay.

The installation of a fire pump and jockey (booster) pump to maintain pressure shall be required. As discussed, a minimum pressure of 65 to 70 psi must be maintained. The 90,000 gallons needs to be dedicated to fire protection as originally designed. This approach is acceptable to repair an existing condition for the current facility.

In the event that the facility requires future expansion, fire flows identified in the California Fire Code will need to be met. A reduction in required fire flow of up to 75 percent, as approved, is allowed when a building is provided with an approved automatic sprinkler system. The resulting fire flow shall not be less than 1,500 gallons per minute. This minimum requirement would total to an onsite storage capacity of 180,000 gallons to meet the two hour duration of 1,500 gallons per minute. The fire flow requirement should be considered when determining how the deficient system will be repaired and/or improved.

A repair plan shall be submitted to the fire department for review and approval. Plans should include spec sheets for the fire pump and ancillary devices.

If you have any further questions regarding this matter, please don't hesitate to contact me at (831) 884-1210 between the hours of 8:00 am and 5:00 pm Monday through Friday.

Sincerely,

A handwritten signature in cursive script, appearing to read "Harald Kelley", with a long, sweeping horizontal line extending to the right.

Harald Kelley
Fire Chief

CC; File

Monterey Regional Waste Management District

Fire Protection System Improvements Project

PROJECT SCHEDULE

DESCRIPTION	LEAD PARTY	TARGET/ COMPLETION DATE
Board approves funding for the preparation of a Water System Master Plan and related work.	MRWMD	6-16-06
Utility Services authorized to begin work on Water System Master Plan.	MRWMD	7-5-06
Submittal of First Draft of Water System Master Plan.	Utility Services	10-12-06
Determination made that additional fire protection water storage capacity is not required.	Marina Fire Chief Kelley	1-9-07
Utility Services authorized to furnish and install well equipment for Brown Bulb Well.	MRWMD	2-28-07
Utility Services authorized to provide engineering services for the Fire Protection System Improvements (preparation of design drawings, specifications, and bidding documents).	MRWMD	2-28-07
Submittal of Final Draft of Water System Master Plan.	Utility Services	4-5-07
Receive preliminary design approval from Monterey County.	MRWMD, Utility Services	4-12-07
New Brown Bulb Well pump and electrical installed.	Utility Services	4-12-07
Submittal of Final Design Plans and Specifications, Construction Bid Documents, and Engineer's Construction Cost Estimate.	Utility Services	4-13-07
Board authorizes a "Call For Bids".	MRWMD	4-20-07
Issue "Call For Bids".	MRWMD	4-23-07
Pre-Bid Meeting (Mandatory).	MRWMD, Utility Services, Contractors	5-10-07
Bid Opening.	MRWMD	5-25-07
Board authorizes Award of Construction Contract.	MRWMD	6-15-07
Issue Notice-of-Award.	MRWMD	6-23-07
Issue Notice-to-Proceed.	MRWMD	7-7-07
Obtain Building Permit from Monterey County.	MRWMD, Utility Services, Contractor	7-9-07
Pre-Construction Meeting.	MRWMD, Utility Services, Contractor	7-12-07
Begin construction.	Contractor	7-18-07
Complete construction.	Contractor	9-18-07