



- Board of Directors  
*Engineering and Operations Committee*

5/8/2012 Board Meeting

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**7-2**

## **Subject**

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Appropriate \$1.77 million; award \$622,650 contract to PPC Construction, Inc. for replacement of sodium hydroxide storage tanks at the Henry J. Mills Water Treatment Plant; and award \$298,089 contract to SCW Contracting Corp. to construct the Mills Hazardous Waste Staging and Handling Facility (Approps. 15381 and 15452)

## **Description**

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This action authorizes two projects at the Henry J. Mills Water Treatment Plant: (1) Replacement of deteriorated sodium hydroxide tanks, and (2) Rehabilitation of the hazardous waste staging and handling facility. Sodium hydroxide is added to the filtered water to raise its pH in order to minimize deterioration of downstream concrete structures and corrosion of piping systems. The hazardous waste staging and handling facility provides temporary storage for hazardous waste liquids and contaminated materials produced during routine operations at the Mills plant.

## **Timing and Urgency**

Replacement of the deteriorated sodium hydroxide tanks is needed at the Mills plant to provide sufficient chemical storage capacity to allow uninterrupted operation in the event of peak chemical usage, chemical shortages, or unexpected delivery problems. The four tanks previously in this service have been removed from operation due to their condition. Under the planned project, three of the tanks will be replaced. This storage volume will support approximately 60 percent of the rated plant capacity of 220 million gallons per day (mgd). Replacement of the tanks will maintain the chemical storage capacity to meet current plant flow requirements, and will maintain operational flexibility. Insufficient sodium hydroxide storage capacity could result in plant flow rate restrictions or an unplanned plant outage.

Rehabilitation of the existing hazardous waste staging and handling facility at the Mills plant is needed to provide enhanced safety and security features, and to reduce the risk of an accidental discharge. This project will improve the chemical containment and add a leak-detection system to minimize the risk of a hazardous waste release, and will provide additional hazardous waste storage space for safer handling of the material.

These projects have been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria. The first project is categorized as an Infrastructure Upgrade project, and the second project is categorized as a Stewardship project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2011/12.

## **Background**

The Mills plant was placed into service in 1978 with an initial capacity of 75 mgd. The plant was expanded twice and is currently rated to treat 220 mgd, which is the design capacity of the two treatment modules currently in operation. The Mills plant exclusively treats water from the East Branch of the State Water Project.

In May 2010, Metropolitan's Board authorized final design to replace the Mills plant's three sodium hydroxide storage tanks. In April 2011, the Board authorized final design to rehabilitate the plant's hazardous waste staging

and handling facility. Final design of both projects has now been completed, and staff recommends moving forward with construction at this time.

### **Project No. 1 - Mills Sodium Hydroxide Tank Replacement – Construction (\$1,090,000)**

During the water treatment process, sodium hydroxide is added to the combined filter outlet channel to raise the pH of the plant's finished water to minimize corrosion in the distribution system. The Mills plant's filter outlet sodium hydroxide tank farm was constructed in 1996 and presently contains four 20,000-gallon fiberglass-reinforced plastic (FRP) storage tanks along with sodium hydroxide feed equipment. All four FRP tanks at the filter outlet tank farm have been removed from service due to deterioration of their interior linings. Deterioration of the linings was caused by exposure to hot sodium hydroxide delivered by the chemical supplier. A temporary connection has been added to another on-site sodium hydroxide tank farm to enable short-term feed of sodium hydroxide to the combined filter outlet channel.

The planned project will replace three FRP tanks with steel tanks which can better withstand exposure to sodium hydroxide at elevated temperatures. The combined volume of three tanks will meet Metropolitan's operational goal for storage of sodium hydroxide under current plant flow conditions. One tank will not be replaced at this time, as backup storage capacity will be provided by connection to the other on-site sodium hydroxide tank farm.

### **Contract Award**

Specifications No. 1690 for the Mills Sodium Hydroxide Tank Replacement was advertised for bids on February 12, 2012. The work consists of replacing three existing FRP tanks with three new carbon steel tanks, and their tie-in to existing process piping and electrical systems. As shown in [Attachment 2](#), five bids were received on March 28, 2012. The low bid from PPC Construction, Inc., in the amount of \$622,650, complies with the requirements of the specifications. The four higher bids ranged from \$649,551 to \$995,000. The engineer's estimate was \$466,000. Staff believes that the difference between the engineer's estimate and the low bid can be attributed to higher than estimated costs for tank removal and disposal due to the challenges of limited work space and residual chemical removal. For this contract, Metropolitan has established a Small Business Enterprise (SBE) participation level of at least 20 percent of the total bid amount. PPC Construction, Inc. is a registered SBE firm, and thus achieves 100 percent participation.

This action appropriates \$1.09 million and awards a \$622,650 contract to PPC Construction, Inc. to replace three sodium hydroxide tanks at the Mills plant. In addition to the amount of the contract, the appropriated funds include \$84,000 for Metropolitan force construction, which includes shutdown activities; equipment start-up & testing, and SCADA integration. The appropriated funds also include \$99,000 for construction inspection; \$62,000 for submittals review by Metropolitan staff; \$75,000 for record drawing preparation and for project management; and \$147,350 for remaining budget.

Metropolitan staff will perform inspection of the construction contract. The anticipated cost of inspection is approximately 13.9 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost less than \$3 million is 9 to 15 percent. For this project, the estimated total cost of construction is \$707,000.

### **Project No. 2 - Mills Hazardous Waste Staging and Handling Facility – Construction (\$680,000)**

Routine operation and maintenance activities at the Mills plant and nearby distribution facilities generate wastes such as used chemicals, oils, paints, and thinners. These waste liquids are classified as hazardous wastes. Rehabilitation and demolition activities may also produce contaminated materials which must be handled and collected in accordance with regulatory requirements. The solid and liquid hazardous wastes are collected and placed into either metal or plastic drums ranging in size from 5 gallons to 55 gallons. These drums are presently separated by type (acid, base, flammable, or oxidizer/miscellaneous) and temporarily stored on secondary containment pallets within a fenced 15-foot by 15-foot unroofed area at the Mills plant. A permanent facility is needed to provide sufficient storage capacity, improved protection, and spill containment for the hazardous waste while lowering the risk of accidental discharge of hazardous waste into the storm drain system.

The planned facility will have a concrete slab with containment curbs and a sump to collect leaks and spillage. The entire area will be fenced, and will be divided into liquid waste and solid waste staging and handling areas. Separate containment pallets will be used for each type of waste. The liquid waste area will be covered by a canopy to minimize rain accumulation within the containment area. The additional storage capacity will reduce the frequency of waste pick-ups by contract haulers, will provide adequate separation between incompatible hazardous wastes, and will allow the forklift to safely maneuver while handling waste containers. The upgraded safety features will include a permanent plumbed eyewash/shower station, a fire suppression system, a leak/spill detection system, warning signs, and communication equipment, and will minimize potential safety risks and staff exposure to hazardous wastes. The fencing with lockable gates and security camera will prevent unauthorized access to the hazardous waste storage area.

### **Contract Award**

Specifications No. 1712 for the Mills Hazardous Waste Staging and Handling Facility was advertised for bids on January 31, 2012. As shown in **Attachment 2**, nine bids were received on March 14, 2012. The low bid from SCW Contracting Corporation, in the amount of \$298,089, complies with the requirements of the specifications. The eight higher bids ranged from \$298,398 to \$488,314. The engineer's estimate was \$515,000. Staff believes the difference between the engineer's estimate and the group of low bids reflects the current highly competitive bidding environment, and the fact that this project was successful in attracting a large number of smaller contractors. For this contract, Metropolitan has established a Small Business Enterprise (SBE) participation level of at least 20 percent of the total bid amount. SCW Contracting Corp. is a registered SBE firm, and thus achieves 100 percent participation.

This action appropriates \$680,000 and awards a \$298,089 construction contract to SCW Contracting Corp. In addition to the amount of the contract, the requested funds include \$118,000 for Metropolitan force construction, which includes equipment start-up and testing; SCADA integration; and procurement and installation of security system equipment. The appropriated funds also include \$63,000 for construction inspection; \$47,000 for submittals review and record drawing preparation by Metropolitan staff; \$44,000 for project management and permitting; and \$109,911 for remaining budget.

Metropolitan staff will perform inspection of the construction contract. The anticipated cost of inspection is approximately 15 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost less than \$3 million is 9 to 15 percent. For this project, the total cost of construction is \$416,089.

### **Summary**

This action appropriates \$1.77 million; awards a \$622,650 contract to PPC Construction, Inc. for replacement of sodium hydroxide storage tanks at the Henry J. Mills Water Treatment Plant; and awards a \$298,089 contract to SCW Contracting Corp. to construct the Mills Hazardous Waste Staging and Handling Facility. Both projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2011/12 capital expenditure plan. See **Attachment 1** for the Financial Statements, **Attachment 2** for the Abstracts of Bids, and **Attachment 3** for the Location Map.

The Sodium Hydroxide Tank Replacement project is included within capital Appropriation No. 15452, the Mills Improvements Program - Phase 2, which was initiated in fiscal year 2007/08. Other projects authorized under Appropriation No. 15452 include the Electrical System Upgrades; Industrial Wastewater Handling Facilities Improvements; and Modules Nos. 3 & 4 Turbidity Meters and Gas Detectors Replacement. With the present action, the total funding for Appropriation No. 15452 will increase from \$7,744,000 to \$8,834,000.

The Hazardous Waste Staging and Handling Facility Rehabilitation project is included within capital Appropriation No. 15381, the Mills Improvements Program, which was initiated in fiscal year 2001/02. Other projects authorized under Appropriation No. 15381 include the Administration Building HVAC System Replacement; Filter Media Replacement; and Ground Fault Protection Upgrades. With the present action, the total funding for Appropriation No. 15381 will increase from \$5,015,000 to \$5,695,000.

***Project Milestones***

February 2013 – Completion of construction of Hazardous Waste Staging and Handling Facility Rehabilitation

May 2013 – Completion of construction of the Mills Sodium Hydroxide Tank Replacement project

**Policy**

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Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

**California Environmental Quality Act (CEQA)**

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**Project No. 1 - Mills Sodium Hydroxide Tank Replacement – Construction**

CEQA determination for Option #1:

The project was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The Board found this project to be exempt under Class 1, Section 15301; and Class 2, Section 15302 of the State CEQA Guidelines on May 11, 2010. A Notice of Exemption (NOE) was filed on the project at that time and the statute of limitations has ended. With the current board action, there are no substantial changes proposed to the project since the original NOE was filed. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to this proposed action.

The CEQA determination is: Determine that the proposed project has been previously addressed in the 2010 NOE (Class 1, Section 15301; and Class 2, Section 15302 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

CEQA determination for Options #2 and #3:

None required

**Project No. 2 - Mills Hazardous Waste Staging and Handling Facility – Construction**

CEQA determination for Options #1 and #2:

The project was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The Board found this project to be exempt under Class 1, Section 15301; Class 2, Section 15302; Class 4, Section 15304 and Class 11, Section 15311 of the State CEQA Guidelines on April 12, 2011. A Notice of Exemption (NOE) was filed on the project at that time and the statute of limitations has ended. With the current board action, there are no substantial changes proposed to the project since the original NOE was filed. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to this proposed action.

The CEQA determination is: Determine that the proposed project has been previously addressed in the 2011 NOE (Class 1, Section 15301; Class 2, Section 15302; Class 4, Section 15304 and Class 11, Section 15311 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

CEQA determination for Option #3:

None required

**Board Options**

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**Option #1**

Adopt the CEQA determinations and

- a. Appropriate \$1.77 million;
- b. Award \$622,650 contract to PCC Construction, Inc. to replace sodium hydroxide storage tanks at the Mills plant; and
- c. Award \$298,089 contract to SCW Contracting Corp. to construct the Mills Hazardous Waste Staging and Handling Facility.

**Fiscal Impact:** \$1.09 million in capital funds under Approp. 15452 and \$680,000 in capital funds under Approp. 15381

**Business Analysis:** This option will enhance plant reliability and maintain safe drinking water quality. It will also comply with environmental and safety regulations; reduce the risk of unintentional on-site discharge of non-permitted hazardous waste; and enhance staff safety.

**Option #2**

Adopt the CEQA determinations and

- a. Appropriate \$680,000;
- b. Do not award the contract to PCC Construction, Inc. to replace sodium hydroxide storage tanks, and re-advertise in an attempt to receive more favorable bids; and
- c. Award \$298,089 contract to SCW Contracting Corp. to construct the Mills Hazardous Waste Staging and Handling Facility.

**Fiscal Impact:** \$680,000 in capital funds under Approp. 15381

**Business Analysis:** This option will rehabilitate the Mills Hazardous Waste Staging and Handling Facility in order to comply with environmental and safety regulations; reduce the risk of unintentional on-site discharge of non-permitted hazardous waste; and enhance staff safety. It may or may not result in a lower bid for the replacement of sodium hydroxide storage tanks.

**Option #3**

Do not award both contracts and re-advertise in an attempt to receive more favorable bids.


**Fiscal Impact:** None

**Business Analysis:** This option may or may not result in lower bids, and would delay completion of the two projects.

**Staff Recommendation**

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Option #1

  
 \_\_\_\_\_ 4/17/2012  
 Gordon Johnson Date  
 Manager/Chief Engineer,  
 Engineering Services

  
 \_\_\_\_\_ 4/24/2012  
 Jeffrey Kichtlinger Date  
 General Manager

[Attachment 1 – Financial Statements](#)

[Attachment 2 – Abstracts of Bids](#)

[Attachment 3 – Location Map](#)

**Financial Statement for Mills Improvements Program**

A breakdown of Board Action No. 11 for Appropriation No. 15381 for the Mills Hazardous Waste Staging and Handling Facility<sup>1</sup> is as follows:

	<b>Previous Total Appropriated Amount (Apr. 2011)</b>	<b>Current Board Action No. 11 (May 2012)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 221,000	\$ -	\$ 221,000
Final Design	767,800	-	767,800
Owner Costs (Program mgmt., permitting)	337,042	44,000	381,042
Submittals Review & Record Drwgs.	-	47,000	47,000
Construction Inspection & Support	272,000	63,000	335,000
Metropolitan Force Construction	371,285	99,000	470,285
Materials & Supplies	228,100	15,000	243,100
Incidental Expenses	22,000	4,000	26,000
Professional/Technical Services	70,000	-	70,000
Equipment Use	13,000	-	13,000
Contracts	2,524,884	298,089	2,822,973
Remaining Budget	187,889 <sup>2</sup>	109,911	297,800
<b>Total</b>	<b>\$ 5,015,000</b>	<b>\$ 680,000</b>	<b>\$ 5,695,000</b>

**Funding Request**

<b>Program Name:</b>	Mills Improvements Program		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15381	<b>Board Action No.:</b>	11
<b>Requested Amount:</b>	\$ 680,000	<b>Capital Program No.:</b>	15381-I
<b>Total Appropriated Amount:</b>	\$ 5,695,000	<b>Capital Program Page No.:</b>	312
<b>Total Program Estimate:</b>	\$ 6,840,000	<b>Program Goal:</b>	I- Infrastructure Upgrade

<sup>1</sup> The total amount expended to date on the Mills Hazardous Waste Staging and Handling Facility Improvements is approximately \$310,000.

<sup>2</sup> Includes previous reallocation of \$96,000 from Remaining Budget to the Mills Hazardous Waste Staging and Handling Facility Improvements for additional field surveys, design changes to accommodate value engineering recommendations, and environmental analyses due to the facility’s proximity to a high fire-risk and environmentally sensitive area.

**Financial Statement for Mills Improvements Program - Phase 2**

A breakdown of Board Action No. 12 for Appropriation No. 15452 for the Mills Sodium Hydroxide Tank Replacement project<sup>1</sup> is as follows:

	<b>Previous Total Appropriated Amount (Apr. 2011)</b>	<b>Current Board Action No. 12 (May 2012)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 1,335,600	\$ -	1,335,600
Final Design	1,111,200	-	1,111,200
Owner Costs (Program mgmt., permitting)	1,131,500	67,000	1,198,500
Submittals Review & Record Drwgs.	50,000	70,000	120,000
Construction Inspection & Support	187,000	99,000	286,000
Metropolitan Force Construction	1,493,000	84,000	1,577,000
Materials & Supplies	1,250,892	-	1,250,892
Incidental Expenses	127,700	-	127,700
Professional/Technical Services	97,000	-	97,000
Equipment Use	62,000	-	62,000
Contracts	550,108	622,650	1,172,758
Remaining Budget	348,000 <sup>2</sup>	147,350	495,350
<b>Total</b>	<b>\$ 7,744,000</b>	<b>\$ 1,090,000</b>	<b>\$ 8,834,000</b>

**Funding Request**

<b>Program Name:</b>	Mills Improvements Program - Phase 2		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15452	<b>Board Action No.:</b>	12
<b>Requested Amount:</b>	\$ 1,090,000	<b>Capital Program No.:</b>	15452-I
<b>Total Appropriated Amount:</b>	\$ 8,834,000	<b>Capital Program Page No.:</b>	313
<b>Total Program Estimate:</b>	\$ 42,091,000	<b>Program Goal:</b>	I- Infrastructure Upgrade

<sup>1</sup> The total amount expended to date on the Mills Sodium Hydroxide Tank Replacement project is approximately \$430,000.

<sup>2</sup> Includes previous reallocation of Remaining Budget to the following projects: (1) \$284,000 for design of the Mills Sodium Hydroxide Tank Replacement project to reflect differing site conditions and to reduce the quantity of tanks to be replaced; and (2) \$59,000 for value engineering on the Mills Plant Laboratory Expansion project.

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on March 28, 2012 at 2:00 P.M.**  
**Specifications No. 1690**

**Mills Sodium Hydroxide Tank Replacement**

The work consists of replacing three fiberglass-reinforced plastic tanks with three new carbon steel tanks, and connecting to existing process piping and electrical systems.

**Engineer's Estimate: \$466,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE<sup>1</sup></b>
<b>PPC Construction, Inc., Los Angeles, CA</b>	<b>\$ 622,650</b>	<b>\$ 622,650</b>	<b>100%</b>	<b>Yes</b>
Mehta Mechanical Company, Inc., dba MMC, La Palma, CA	\$ 649,551	N/A	N/A	N/A
Zusser Company, Inc., Los Angeles, CA	\$ 789,950	N/A	N/A	N/A
Cora Constructors Inc., Palm Desert, CA	\$ 894,823	N/A	N/A	N/A
Metro Builders and Engineers Group Ltd., Newport Beach, CA 92663	\$ 995,000	N/A	N/A	N/A

<sup>1</sup> SBE (Small Business Enterprise) participation level was established at 20% for this contract



**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on March 14, 2012 at 2:00 P.M.**  
**Specifications No. 1712**  
**Mills Hazardous Waste Staging and Handling Facility**

The Mills Hazardous Waste Staging and Handling Facility project consists of construction of a steel canopy and foundations; concrete ramps and slab with a sump and curbs; and fencing and gates; modification of an existing electrical duct bank; and installation of leak detection and safety shower/eyewash systems.

**Engineer's Estimate: \$515,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE<sup>1</sup></b>
<b>SCW Contracting Corporation, Fallbrook, CA</b>	<b>\$ 298,089</b>	<b>\$ 298,089</b>	<b>100</b>	<b>Yes</b>
AToM Engineering Construction, Inc., Hemet, CA	\$ 298,398	N/A	N/A	N/A
Avi-Con, Inc. dba CA Construction, Riverside, CA	\$ 343,000	N/A	N/A	N/A
Hemet Mfg. Co., Inc., dba Genesis Construction, Hemet, CA	\$ 346,777	N/A	N/A	N/A
Fleming Environmental Inc., Fullerton, CA	\$ 368,379	N/A	N/A	N/A
Kaveh Engineering & Construction, Inc., Anaheim, CA	\$ 369,837	N/A	N/A	N/A
H.C. Olsen Construction, Monrovia, CA	\$ 386,999	N/A	N/A	N/A
Broughton Construction Inc., Rancho Cucamonga, CA	\$ 409,000	N/A	N/A	N/A
United Riggers & Erectors, Inc., Walnut, CA	\$ 488,314	N/A	N/A	N/A

<sup>1</sup> SBE (Small Business Enterprise) participation level was established at 20% for this contract

# Location Map

