



● **Board of Directors**
Engineering and Operations Committee

1/12/2010 Board Meeting

7-2

Subject

Appropriate \$302,000; and authorize preliminary design of two improvement projects at the Mills plant (Approps. 15381 and 15452)

Description

This action authorizes two projects at the Henry J. Mills Water Treatment Plant: (1) Preliminary design to expand the plant's laboratory to meet current and future water quality testing requirements; and (2) Preliminary design to improve the hazardous waste storage facility and enhance compliance with environmental and safety regulations.

Timing and Urgency

The existing Mills Plant Laboratory, which was constructed in 1992, is undersized and congested. With the recent addition of new treatment facilities and more stringent water quality regulations, the increased quantity of water quality tests performed in the laboratory overburdens the available work space. The laboratory must be expanded in order to meet accessibility requirements and best practices for laboratories. Furthermore, when Modules Nos. 1 and 2 are rehabilitated and brought on-line in early 2014, the total quantity of water quality samples and required tests will be more than double the quantity planned when the laboratory was originally constructed. Staff recommends proceeding with preliminary design at this time to expand the Plant Laboratory to meet current water quality testing needs and to accommodate the additional water quality testing which will be required in early 2014.

The existing hazardous waste storage facility needs to be improved in order to meet the increasing need for hazardous waste storage. Staff recommends moving forward with preliminary design of a new hazardous waste storage facility to provide additional storage space and improve protection for hazardous wastes. The proposed facility will be designed for enhanced regulatory compliance, to reduce the risk of accidental discharge of hazardous wastes to the surrounding environment, and to minimize potential staff exposure to hazardous wastes.

These projects have been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria. The Plant Laboratory project is categorized as a Water Quality project, and the Hazardous Waste Storage Facility project is categorized as a Stewardship project. Both are budgeted within Metropolitan's CIP for fiscal year 2009/10.

Background

The Mills plant was placed into service in 1978 with an initial capacity of 75 mgd, and has been expanded twice. Following the July 2009 completion of Ozone Contactors Nos. 3 and 4, the plant is rated to treat 220 mgd, which is the design capacity of existing Modules Nos. 3 and 4. The Mills plant exclusively treats water from the East Branch of the State Water Project. Several projects are underway that will upgrade the Mills plant's rated capacity to 326 mgd.

Project No. 1: Plant Laboratory Expansion – Preliminary Design Phase (\$198,000)

The Mills Plant Laboratory, which is located on the second floor of the Administration Building, is approximately 730 square feet in area. It includes a General Laboratory, Microbiology Laboratory, and small storage/office area.

The Plant Laboratory was completed in 1992 to accommodate water quality testing needs for the original two treatment modules, which have a combined capacity of 106 mgd. Since that time, the following facilities have been added to the Mills plant: Modules Nos. 3 and 4 (in 1997); ozonation facilities (in 2003); Contactors Nos. 3 and 4 (in 2009) and a new treated water distribution pipeline (in 2009). Due to these new facilities and increasingly more stringent water quality regulations, the quantity of water quality samples and required tests has greatly increased since 1992.

At the present time, additional laboratory workspace is needed to provide a safe and productive work environment. In addition, laboratory improvements are required to meet accessibility requirements and current best practice standards for laboratories. The current chemical storage situation is not optimal for safety or proper work flow in the lab. The planned improvements will enhance the ability of users to perform multiple tests and tasks, as current laboratory bench conditions require extra care in handling samples to avoid contamination. Lastly, the hazardous chemical waste storage space will be expanded and the existing chemical fume hood will be enlarged to accommodate all lab functions.

In early 2014, when the Mills plant capacity upgrades are planned to be completed, the treatment capacity will increase from 220 mgd to 326 mgd when Modules Nos. 1 and 2 are rehabilitated. By this date, the quantity of water quality samples and required tests will have more than doubled from when the laboratory was originally constructed. This testing is required to demonstrate compliance with U.S. Environmental Protection Agency and California Department of Public Health water quality regulations.

Staff recommends expanding the laboratory by enlarging the second floor of the Administration Building to provide approximately 1,500 square feet of additional laboratory space, and installing new furniture, new sample sinks and sample lines, and built-in equipment to meet the current and near-term future needs. The existing laboratory instruments will be relocated to the new laboratory expansion, while the existing laboratory rooms will be converted to storage rooms and a staging area for first responders. The new laboratory layout will be designed to be functional, efficient, and safe, and to comply with current Building and Fire Codes and with the Americans with Disabilities Act. Proceeding with preliminary design of the Plant Laboratory Expansion at this time will allow better coordination with the Modules Nos. 1 and 2 Rehabilitation project.

This action appropriates \$198,000 and authorizes preliminary design phase activities for the Mills Plant Laboratory Expansion. These activities include engineering analyses for the building expansion and utilities, layout of the laboratory space, preparation of environmental documentation, code review and permitting, development of a construction cost estimate, and preparation of a preliminary design report. All work will be performed by Metropolitan staff. The construction cost for this project is anticipated to range from \$1.5 million to \$2 million.

Project No. 2: Hazardous Waste Storage Facility – Preliminary Design Phase (\$104,000)

Hazardous wastes such as waste chemicals, oils, paints, thinners, and antifreeze are generated through routine operations throughout the Mills plant, and by local conveyance and distribution system activities. The hazardous wastes are collected and placed into either metal or plastic drums ranging in size from 5 gallons to 55 gallons. These drums are 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. This staging and storage area is located northwest of the existing Mills automotive shop. A forklift is used to off-load drums, move the drums inside the staging and storage area, and to load them onto truck beds for disposal. As required by law, waste-containing drums are stored on-site for no more than 90 days, and are transported off-site for appropriate disposal.

While the original design complied with the codes and regulations at the time, the hazardous waste staging and storage area requires a number of upgrades to meet increasing needs for stable long-term service and to enhance compliance with current codes:

- Improvements will increase capacity of the storage area to accommodate increases over the past few years in the amount of hazardous waste generated at the Mills plant.
- Upgrades will bring the staging and storage area up to current code requirements and will reduce the risk of a hazardous waste release.

- The current portable eyewash station, which requires continual maintenance and does not provide a deluge shower to quickly wash away any hazardous material, will be upgraded to provide a greater degree of safety to employees working in the area.

In order to meet increasing storage need and to enhance regulatory compliance and worker safety, staff recommends upgrading the hazardous waste storage facility. This project will include an approximate 35-foot by 50-foot concrete staging and storage area with concrete containment curbs, fiberglass-reinforced plastic grating; and a sump for each type of hazardous waste. The entire staging, storage and loading area will be covered by a canopy and will be secured with a chain-link fence to restrict unauthorized access. The facility will have upgraded safety features including a plumbed eyewash/shower station with flow switch to alarm the plant Control Room if the station is used; a fire suppression system; a leak detection system; a security camera and communication equipment. This new facility will provide improved protection and storage space for hazardous wastes, and separation for incompatible hazardous wastes. It will enhance safety for plant personnel and lower the risk of accidental discharge of hazardous waste into the storm drain system.

This action appropriates \$104,000 and authorizes preliminary design phase activities for the Hazardous Waste Storage Facility. Planned activities include field investigations, detailed engineering analyses, code review and permitting, preparation of environmental documentation, development of a construction cost estimate, and preparation of a preliminary design report. All design work will be performed by Metropolitan staff. The construction cost for this project is anticipated to range from \$500,000 to \$700,000.

Project Milestones

October 2010 – Completion of preliminary design of Mills Hazardous Waste Storage Facility

December 2010 – Completion of preliminary design of Mills Plant Laboratory Expansion

These projects have been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds have been included in the fiscal year 2009/10 capital budget under two capital programs. See [Attachment 1](#) for the Financial Statements and [Attachment 2](#) for the Location Map.

These projects are consistent with Metropolitan's goals for sustainability by protecting water quality and improving worker safety at the Mills plant, in order to maintain reliable water deliveries.

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

Project No. 1: Plant Laboratory Expansion – Preliminary Design Phase

CEQA determination for Options #1 and #2:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of basic data collection and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies as a Class 6 Categorical Exemption (Section 15306 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a Categorical Exemption (Class 6, Section 15306 of the State CEQA Guidelines).

CEQA determination for Options #3 and #4:

None required

Project No. 2: Hazardous Waste Storage Facility – Preliminary Design Phase

CEQA determination for Options #1 and #3:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of basic data collection and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies as a Class 6 Categorical Exemption (Section 15306 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a Categorical Exemption (Class 6, Section 15306 of the State CEQA Guidelines).

CEQA determination for Options #2 and #4:

None required

Board Options

Option #1

Adopt the CEQA determination and

- a. Appropriate \$302,000;
- b. Authorize preliminary design of the Mills Plant Laboratory Expansion; and
- c. Authorize preliminary design of the Mills Hazardous Waste Storage Facility.

Fiscal Impact: \$104,000 in budgeted funds under Approp. 15381 and \$198,000 in budgeted funds under Approp. 15452

Business Analysis: This option will expand the Mills Plant Laboratory to accommodate the current water quality testing needs and increasing water quality analyses needed due to the plant's capacity upgrade to 326 mgd. It will also provide a new hazardous waste storage facility to meet the increasing storage need; enhance compliance with state 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 determination and

- a. Appropriate \$198,000;
- b. Authorize preliminary design of the Mills Plant Laboratory Expansion; and
- c. Do not authorize preliminary design of the Mills Hazardous Waste Storage Facility at this time.

Fiscal Impact: \$198,000 in budgeted funds under Approp. 15452

Business Analysis: This option would expand the Plant Laboratory to accommodate the current water quality testing needs and increasing water quality analyses needed due to the plant's capacity upgrade to 326 mgd. Staff would continue to use the temporary hazardous waste staging and storage area. There would be a continuing higher risk of unintentional on-site discharge of non-permitted hazardous waste. Worker safety would not be enhanced during the staging and temporary storage of hazardous wastes.

Option #3

Adopt the CEQA determinations and

- a. Appropriate \$104,000;
- b. Authorize preliminary design of the Mills Hazardous Waste Storage Facility; and
- c. Do not authorize preliminary design of the Mills Plant Laboratory Expansion.

Fiscal Impact: \$104,000 in budgeted funds under Approp. 15381

Business Analysis: This option would provide a new hazardous waste storage facility to meet the increasing storage need; enhance compliance with state environmental and safety regulations; reduce the risk of unintentional on-site discharge of non-permitted hazardous waste; and enhance staff safety. Improvements to the existing Plant Laboratory would not be made, which would require the plant to continue to perform the water quality testing in an overcrowded and deficient space. There would be no additional workspace to

handle the increasing water quality testing needs when the Modules Nos. 1 and 2 rehabilitation is completed in early 2014.

Option #4

Do not proceed with the two projects.

Fiscal Impact: None

Business Analysis: Improvements to the existing Plant Laboratory would not be made, which would require the plant to continue to perform the water quality testing in an overcrowded and deficient space. There would be no additional workspace to handle the increasing water quality testing needs when the Modules Nos. 1 and 2 rehabilitation is completed in early 2014. Staff would continue to use the temporary hazardous waste staging and storage area. There would be a continuing higher risk of unintentional on-site discharge of non-permitted hazardous waste. Worker safety would not be enhanced during the staging and temporary storage of hazardous wastes.

Staff Recommendation

Option #1



Roy L. Wolfe
Manager, Corporate Resources

12/29/2010
Date



Jeffrey Knightlinger
General Manager

12/29/2010
Date

Attachment 1 – Financial Statements

Attachment 2 – Location Map

Reference Number CR12602629

Financial Statement for Mills Improvements Program

A breakdown of Board Action No. 9 for Appropriation No. 15381 for the Mills Hazardous Waste Storage Facility project* is as follows:

	Previous Total Appropriated Amount (May 2006)	Current Board Action No. 9 (Jan. 2010)	New Total Appropriated Amount
Labor			
Studies and Preliminary Design	\$ 145,000	\$ 76,000	\$ 221,000
Final Design	653,800	-	653,800
Owner Costs (Program mgmt., envir. doc., permitting)	229,042 **	27,000	256,042
Construction Inspection and Support	272,000	-	272,000
Metropolitan Force Construction	385,000	-	385,000
Materials and Supplies	228,100	-	228,100
Incidental Expenses	21,000	1,000	22,000
Professional/Technical Services	45,000	-	45,000
Equipment Use	13,000	-	13,000
Contracts	2,524,884 **	-	2,524,884
Remaining Budget	260,174 **		260,174
Total	\$ 4,777,000	\$ 104,000	\$ 4,881,000

Funding Request

Program Name:	Mills Improvements Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15381	Board Action No.:	9
Requested Amount:	\$ 104,000	Capital Program No.:	15381-I
Total Appropriated Amount:	\$ 4,881,000	Capital Program Page No.:	308
Total Program Estimate:	\$ 6,584,000	Program Goal:	I- Infrastructure Upgrade

* This action is the initial appropriation for the Mills Hazardous Waste Storage Facility project.

** Includes reallocation of \$4,884 from Remaining Budget to resolve unanticipated issues for Administration Building HVAC System Replacement Contract; reallocation of \$33,526 from Mills Filter Media Replacement project Owner Costs to Remaining Budget; and reallocation of \$532 from Mills Elevated Coagulation project Owner Costs to Remaining Budget.

Financial Statement for Mills Improvements Program – Phase II

A breakdown of Board Action No. 6 for Appropriation No. 15452 for the Mills Plant Laboratory Expansion project* is as follows:

	Previous Total Appropriated Amount (Jan. 2010)	Current Board Action No. 6 (Jan. 2010)	New Total Appropriated Amount
Labor			
Studies and Preliminary Design	\$ 587,100	\$ 116,000	\$ 703,100
Final Design	405,000	-	405,000
Owner Costs (Program mgmt., envir. doc., permitting)	533,200	32,000	565,200
Construction Inspection and Support	61,000	-	61,000
Metropolitan Force Construction	675,800	-	675,800
Materials and Supplies	500,000	-	500,000
Incidental Expenses	94,700	3,000	97,700
Professional/Technical Services	-	47,000	47,000
Equipment Use	50,000	-	50,000
Contracts	-	-	-
Remaining Budget	273,200		273,200
Total	\$ 3,180,000	\$ 198,000	\$ 3,378,000

Funding Request

Program Name:	Mills Improvements Program – Phase II		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15452	Board Action No.:	6
Requested Amount:	\$ 198,000	Capital Program No.:	15452-I
Total Appropriated Amount:	\$ 3,378,000	Capital Program Page No.:	309
Total Program Estimate:	\$ 12,900,000	Program Goal:	I- Infrastructure Upgrade

* This action is the initial appropriation for the Mills Plant Laboratory Expansion project.

Henry J. Mills Water Treatment Plant

