



● **Board of Directors**  
***Engineering and Capital Programs Committee***

August 18, 2009 Board Meeting

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**8-3**

**Subject**

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Appropriate \$4.65 million; award \$2,392,000 contract to Griffith Company for the Skinner Chemical Systems and Solids Collection Improvements; and authorize the Skinner Maintenance Building Insulation Replacement project (Approps. 15365 and 15435)

**Description**

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This action authorizes two construction projects at the Robert A. Skinner Water Treatment Plant. The first project is needed to maintain reliable treatment plant operations and will replace damaged sodium hypochlorite and polymer feed piping at the filters; install secondary containment for the chemical feed piping at Skinner Plants Nos. 1 and 2; provide a potable water pump dedicated to supplying chlorine solution water during a power outage; and replace worn-out chain-and-flight solids collection equipment at Washwater Reclamation Plant No. 2 (WWRP No. 2). The second project will replace building insulation inside the Skinner Maintenance Building, including removal of lead-contaminated waste, in order to ensure a safe working environment..

**Timing and Urgency**

The Skinner chemical systems and solids collection improvements are needed to optimize biological filtration, which will reduce the levels of disinfection by-product precursors and ozone related by-products; control turbidity spikes in the filters for compliance with the U.S. EPA's Surface Water Treatment Rule; and replace worn-out solids collection equipment, which is required for proper water treatment. The building improvements are needed to enhance the safety of plant staff.

These projects have been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria. Staff recommends proceeding with the two projects at this time to enhance plant reliability, protect Metropolitan assets, maintain compliance with water quality and environmental regulations, enhance the safety of plant staff, and take advantage of the current highly competitive bidding climate. The first project is categorized as a Stewardship project and the second as an Infrastructure Refurbishment project. Both are budgeted within Metropolitan's CIP for fiscal year 2009/10.

**Background**

The Skinner plant was placed into service in 1976 to supply treated water to Riverside and San Diego Counties. Since its original construction, the plant has been expanded four times and now consists of seven treatment modules that are operated as three distinct facilities (Plants Nos. 1, 2 and 3). The plant has a treatment capacity of 630 mgd, and delivers a blend of waters from the Colorado River and State Water Project to Eastern Municipal Water District, Western Municipal Water District of Riverside County, and San Diego County Water Authority.

**Project No. 1 - Skinner Chemical Systems and Solids Collection Improvements – Construction**  
(\$4.42 million)

In August 2007, Metropolitan's Board authorized final design for the replacement of worn-out solids collection equipment at WWRP No. 2. The submerged moving parts of the collection system have deteriorated due to contact with abrasive filter media that have washed out during the filter backwash process, as well as exposure to corrosive coagulated solids. In February 2008, the Board authorized final design to replace damaged filter backwash sodium hypochlorite and polymer piping and to add secondary containment at Plants Nos. 1 and 2; to

add a concrete trench (secondary containment) for sodium hypochlorite piping at Modules Nos. 5 and 6; and to provide a new potable water pump with emergency power supply. Sodium hypochlorite will be used to control microorganism growth in the biological filtration process, which will be initiated in late 2009 by halting the continuous application of chlorine onto the filters downstream of the ozonation process. The damaged sodium hypochlorite and polymer piping cracked due to excessive thermal expansion while it was not in use and was temporarily emptied of flowing fluid, which would have cooled the piping and prevented the excessive expansion. Staff recommends replacing the damaged piping, providing sufficient bends and expansion joints to allow for contraction-expansion, and installing secondary containment to capture any leakage. Relocating the direct-buried sodium hypochlorite piping at Modules Nos. 5 and 6 into concrete box chemical trenches will afford better protection, longer life, and minimize maintenance of the piping system, while ensuring that any future leaks are properly detected and contained. To increase the reliability of the back-up chlorination system, staff recommends installation of a back-up 3,000-gpm potable water pump with dedicated 480V emergency generator to supply water to the chlorine ejectors in the event of a major power outage. The existing potable water pumping station was constructed with an empty slot to easily accommodate another vertical pump. Addition of the 3,000-gpm pump and emergency generator will increase plant reliability.

Final design of these projects has been completed. In order to maximize efficiency, the projects were consolidated into one construction package.

### **Award of Construction Contract**

Specifications No. 1649 for the Skinner Chemical Systems and Solids Collection Improvements Project was advertised for bids on March 31, 2009. The project consists of removing and replacing the sodium hypochlorite and polymer feed piping to the filter backwash system and constructing secondary containment for the chemical feed piping at Plants Nos. 1 and 2; adding chemical piping trenches at Plant No. 2; furnishing and installing a new potable water pump, relocating a Metropolitan-furnished standby generator, constructing a concrete pad and canopy for the generator; replacing the chain-and-flight solids collection equipment; and adding isolation valves on the solids removal pump manifolds at WWRP No. 2 to enable isolation and maintenance of individual pumps. As shown in [Attachment 2](#), eight bids were received on May 27, 2009. The low bid from Griffith Company, in the amount of \$2,392,000, complies with the requirements of the specifications. Seven other bids ranged from approximately \$2.6 million to \$4.6 million. The engineer's estimate was \$3.5 million. For this contract, Metropolitan has established a Small Business Enterprise (SBE) participation level of at least 20 percent of the total bid amount. Griffith Company has committed to meet this level of participation.

This action appropriates \$4.42 million in budgeted funds and awards a \$2,392,000 contract to Griffith Company for the Skinner Chemical Systems and Solids Collection Improvements. In addition to the amount of the contract, the appropriated funds include \$403,800 for Metropolitan force construction; \$440,000 for construction inspection; \$120,000 for submittals review; \$170,000 for consultant support in the areas of environmental monitoring and Project Labor Agreement (PLA) administration (see below); \$240,000 for all other staff support; and \$654,200 for remaining budget. The other staff support includes contract administration, record drawing preparation, and project management.

Environmental monitoring will be performed by Dudek & Associates, Inc (Dudek) under an existing board-authorized agreement. Dudek was selected through a competitive process (Request for Proposal No. 732) to provide environmental support. PLA administration services will be provided by Parsons Constructors, Inc. (PCI) under an existing board-authorized agreement. PCI was selected through a competitive process (Request for Proposals No. 674) to provide PLA administration services. Due to the specialized nature of the PLA services, no SBE participation level was established for the PCI agreement. For the Dudek agreement, Metropolitan has established an SBE participation level of 20 percent. No amendments to the existing agreements with Dudek and PCI are required for this work.

Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of inspection and support 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.

**Project No. 2 - Skinner Maintenance Building Insulation Replacement – Construction (\$230,000)**

The Skinner Maintenance Building includes three shops for welding, painting, and carpentry, and is constructed of ribbed sheet metal. The three shop rooms were provided with an exposed “spray-on” type of building insulation at the interior walls and ceilings. The building was constructed over 28 years ago.

Currently, the insulation is delaminating from the walls and ceilings. Pieces of insulation have fallen and collected on light fixtures, floors and other working surfaces. Recent results have shown that the insulation contains detectable levels of miscellaneous metals, including lead at concentrations high enough to consider the insulation a hazardous material. The metal content in the insulation is presumed to have come from years of exposure to weld and paint fumes. In addition, the dust on the insulation can easily become airborne when disturbed. Staff working within the building currently wear respiratory protection. Staff recommends proceeding with construction at this time to remove the existing insulation at the three main rooms of the Maintenance Building and to replace it with new rigid-board insulation, in order to enhance the safety of plant staff.

Specifications No. 1650A for insulation replacement in the Skinner Maintenance Building was advertised for bids on February 26, 2009. The project consists of removal of the existing insulation, which contains detectable levels of miscellaneous metals including lead, and replacement with new rigid-board insulation. As shown in [Attachment 2](#), three bids were received on March 26, 2009. The low bid was deemed to be nonresponsive due to the bidder not possessing a valid license in the name of the entity submitting the bid, and other irregularities contained in its bid documents. The second low bid from Capital Development, Inc., in the amount of \$126,500, complies with the requirements of the specifications. The third bid was \$129,500, while the engineer’s estimate was \$108,000. Staff believes that the difference between the engineer’s estimate and the bids was due to larger contingencies by contractors to account for unanticipated risks associated with the removal of lead-contaminated insulation. For this contract, Metropolitan did not establish an SBE participation level due to the specialized nature of the work.

This action appropriates \$230,000 in budgeted funds. The construction contract is planned to be awarded under the General Manager’s Administrative Code authority to award contracts of \$250,000 or less. In addition to the amount of the contract, the appropriated funds include \$16,000 for Metropolitan force construction; \$16,000 for construction inspection; \$9,440 for submittals review; \$25,060 for contract administration, record drawing preparation, and project management; \$6,000 for monitoring and sampling of hazardous material during abatement; and \$31,000 for remaining budget. The Metropolitan force construction includes relocation of existing cabinets and equipment before and after the insulation replacement.

Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of the inspection and support is approximately 11 percent of the total construction cost. Engineering Services’ goal for inspection of projects with construction costs less than \$3 million is 9 to 15 percent.

See [Attachment 1](#) for the Financial Statements, [Attachment 2](#) for the Abstracts of Bids, and [Attachment 3](#) for the Location Map. These projects are consistent with Metropolitan’s goals for sustainability by enhancing the reliability of the Skinner plant in order to maintain reliable water deliveries in the future.

***Project Milestones***

October 2009 – Completion of Skinner Maintenance Building Insulation Replacement

October 2010 - Completion of Skinner Chemical Systems and Solids Collection Improvements

**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 - Skinner Chemical Systems and Solids Collection Improvements**

CEQA determination for Option #1:

The environmental effects from the funding, design, procurement of equipment, construction, and operation of the Skinner Module No. 7, Oxidation Retrofit Program, Chemical Systems Modifications, and Wastewater Reclamation Plant programs (Program) were evaluated in the "Robert A. Skinner Filtration Plant Reliability and Quality Program Final Program Environmental Impact Report: (Final PEIR)." The Final PEIR was certified by the Board on July 8, 2003. The Board also approved the Findings of Fact (Findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the Program itself. Subsequent to the certification of the 2003 Final PEIR for the Program, to comply with CEQA and the State CEQA Guidelines, Metropolitan as the Lead Agency prepared a Mitigated Negative Declaration (MND) entitled "Robert A. Skinner Filtration Plant Reliability and Quality Program, Additional Construction Use Area and Creek Crossing" to address the environmental impacts of establishing an additional construction use area for the Program. The MND was adopted by the Board on May 11, 2004. Additionally, further refinements were found to be required thus modifying the original Program description. Metropolitan prepared a Negative Declaration (ND) entitled "Robert A. Skinner Filtration Plant Reliability and Quality Program Refinements to the Program" to address these refinements. The ND was adopted by the Board on November 9, 2004. Addendum No. 1 to the MND was prepared in July 2006, for installation and use of a temporary metal storage building during Program construction. The current proposed action is based on the construction of the Skinner Chemical Systems portion of the project and would not result in any new significant environmental impacts, nor result in substantial changes to the approved Program. Hence, the previously adopted environmental documentation in conjunction with the current board action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further environmental documentation is necessary for the Board to act on with respect to the proposed action.

The Solids Collection Improvements portion of the project was previously determined to be categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The Board found this project to be exempt under Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; and Class 4, Section 15304 of the State CEQA Guidelines on August 21, 2007. 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 is no substantial change 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 the proposed action.

The CEQA determination is: Determine that the Skinner Chemical Systems portion of the proposed action has been previously addressed in the certified 2003 Final PEIR and related documents, the adopted 2004 MND and 2006 Addendum No. 1 to the MND, and the adopted 2004 ND, and that no further environmental analysis or documentation is required. Determine that the Solids Collection Improvements portion of the proposed action has been previously addressed in the 2007 NOE (Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; and Class 4, Section 15304 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

### **Project No. 2 - Skinner Maintenance Building Insulation Replacement -- Construction**

CEQA determination for Options #1 and #2:

The environmental effects from the funding, design, procurement of equipment, construction, and operation of the Skinner Module No. 7, Oxidation Retrofit Program, Chemical Systems Modifications, Wastewater Reclamation Plant programs (Program) and Skinner Maintenance Building Insulation Replacement were evaluated in the "Robert A. Skinner Filtration Plant Reliability and Quality Program Final Program Environmental Impact Report: (Final PEIR)." The Final PEIR was certified by the Board on July 8, 2003. The Board also approved the

Findings of Fact (Findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the Program itself. Subsequent to the certification of the 2003 Final PEIR for the Program, to comply with CEQA and the State CEQA Guidelines, Metropolitan as the Lead Agency prepared a Mitigated Negative Declaration (MND) entitled "Robert A. Skinner Filtration Plant Reliability and Quality Program, Additional Construction Use Area and Creek Crossing" to address the environmental impacts of establishing an additional construction use area for the Program. The MND was adopted by the Board on May 11, 2004. Additionally, further refinements were found to be required thus modifying the original Program description. Metropolitan prepared a Negative Declaration (ND) entitled "Robert A. Skinner Filtration Plant Reliability and Quality Program Refinements to the Program" to address these refinements. The ND was adopted by the Board on November 9, 2004. Addendum No. 1 to the MND was prepared in July 2006, for installation and use of a temporary metal storage building during Program construction. The current proposed action is based on the construction of the Skinner Maintenance Building Insulation Replacement project and would not result in any new significant environmental impacts, nor result in substantial changes to the approved Program. Hence, the previously adopted environmental documentation in conjunction with the current board action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further environmental documentation is necessary for the Board to act on with respect to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the certified 2003 Final PEIR and related documents, the adopted 2004 MND and 2006 Addendum No. 1 to the MND, and the adopted 2004 ND, and that no further environmental analysis or documentation is required.

## Board Options

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### Option #1

Adopt the CEQA determinations and

- a. Appropriate \$4.65 million;
- b. Award \$2,392,000 contract to Griffith Company for the Skinner Chemical Systems and Solids Collection Improvements; and
- c. Authorize the Skinner Maintenance Building Insulation Replacement Project.

**Fiscal Impact:** \$4.65 million in budgeted funds under Approps. 15365 and 15435

**Business Analysis:** Replacing the damaged sodium hypochlorite and polymer feed piping will allow control of the biological filtration process and turbidity spikes. Addition of secondary containment will enhance reliability and help ensure compliance with safety and environmental regulations. Addition of the dedicated potable water pump will improve reliability of the chlorine disinfection system during a power outage. Replacing the solids collection equipment will aid in maintaining plant reliability. Removing the existing contaminated insulation from the Maintenance Building will enhance the safety of plant staff.

### Option #2

Adopt the CEQA determination and

- a. Appropriate \$230,000;
- b. Do not award the contract for the Skinner Chemical Systems and Solids Collection Improvements, and re-advertise in an attempt to receive more favorable bids; and
- c. Authorize the Skinner Maintenance Building Insulation Replacement Project.

**Fiscal Impact:** \$230,000 in budgeted funds under Approp. 15435

**Business Analysis:** Re-advertisement of the construction contract may or may not result in a lower bid. Deferral of the chemical system piping replacement will affect Metropolitan's ability to effectively control biological filtration and turbidity spikes. Deferral of the secondary containment may place Metropolitan at increased risk of violating regulations for hazardous materials handling, as required by the local Fire Code. Deferral of the potable water pump and dedicated generator will leave Metropolitan at risk of not being able to treat and provide water to member agencies in the event of a major power outage.

**Staff Recommendation**

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Option #1

  
Roy L. Wolfe  
Manager, Corporate Resources

7/27/2009

Date

  
Jeffrey Lightlinger  
General Manager

7/31/2009

Date

**Attachment 1 – Financial Statements**

**Attachment 2 – Abstracts of Bids**

**Attachment 3 – Location Map**

BLA #6674

**Financial Statement for Skinner Improvements Program**

A breakdown of Board Action No. 18 for Appropriation No. 15365 for the Skinner Chemical Systems and Solids Collection Improvements is as follows:

	<b>Previous Total Appropriated Amount (June 2009)</b>	<b>Current Board Action No. 18 (Aug. 2009)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies and Investigations	\$ 787,000	\$ -	\$ 787,000
Final Design	2,492,500	-	2,492,500
Owner Costs (Program mgmt., contract record drawings )	4,157,100	240,000	4,397,100
Submittals Review	-	120,000	120,000
Construction Inspection and Support	8,601,000	440,000	9,041,000
Metropolitan Force Construction	3,579,100	276,300	3,855,400
Materials and Supplies	2,608,700	20,000	2,628,700
Incidental Expenses	387,000	87,500	474,500
Professional/Technical Services	4,264,000	170,000	4,434,000
Equipment Use	288,000	20,000	308,000
Contracts	113,935,800	2,392,000	116,327,800
Remaining Budget	370,500	654,200	1,024,700
<b>Total</b>	<b>\$ 141,470,700</b>	<b>\$ 4,420,000</b>	<b>\$ 145,890,700</b>

**Funding Request**

<b>Program Name:</b>	Skinner Improvements Program		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15365	<b>Board Action No.:</b>	18
<b>Requested Amount:</b>	\$ 4,420,000	<b>Capital Program No.:</b>	15365-I
<b>Total Appropriated Amount:</b>	\$ 145,890,700	<b>Capital Program Page No.:</b>	244
<b>Total Program Estimate:</b>	\$ 163,700,000	<b>Program Goal:</b>	I-Infrastructure Reliability

**Financial Statement for Skinner Water Treatment Plant Improvements Program Phase II**

A breakdown of Board Action No. 5 for Appropriation No. 15435 for the Skinner Maintenance Building Insulation Replacement is as follows:

	<b>Previous Total Appropriated Amount (July 2009)</b>	<b>Current Board Action No. 5 (Aug. 2009)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies and Investigations	\$ 20,000	\$ -	\$ 20,000
Preliminary Design	40,300		40,300
Final Design	197,800 *	-	197,800
Owner Costs (Program mgmt., submittals review)	216,298 *	33,000	249,298
Construction Inspection and Support	57,200	16,000	73,200
Metropolitan Force Construction	1,270,000	13,000	1,283,000
Materials and Supplies	812,300	-	812,300
Incidental Expenses	41,285 *	4,500	45,785
Professional/Technical Services	3,817 *	6,000	9,817
Equipment Use	226,200	-	226,200
Contracts	-	126,500	126,500
Remaining Budget	359,800 *	31,000	390,800
<b>Total</b>	<b>\$ 3,245,000</b>	<b>\$ 230,000</b>	<b>\$ 3,475,000</b>

\* Includes previous reallocation of \$74,000 from Remaining Budget as indicated for final design phase activities of the Skinner Maintenance Building Insulation Replacement project.

**Funding Request**

<b>Program Name:</b>	Skinner Water Treatment Plant – Improvements Program Phase II		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15435	<b>Board Action No.:</b>	5
<b>Requested Amount:</b>	\$ 230,000	<b>Capital Program No.:</b>	15435-I
<b>Total Appropriated Amount:</b>	\$ 3,475,000	<b>Capital Program Page No.:</b>	245
<b>Total Program Estimate:</b>	\$ 33,225,000	<b>Program Goal:</b>	I-Infrastructure Reliability



**The Metropolitan Water District of Southern California**

**Abstract of Bids Received on May 27, 2009 at 2:00 P.M.**

**Specifications No. 1649**

**Robert A. Skinner Water Treatment Plant  
Chemical Systems and Solids Collection Improvements**

The project consists of removing and replacing the sodium hypochlorite and polymer feed piping to the filter backwash system and constructing secondary containment for the chemical feed piping at Plants Nos. 1 and 2; adding chemical piping trenches at Plant No. 2; furnishing and installing a new potable water pump, relocating a Metropolitan-furnished generator, and constructing a concrete pad and canopy for the generator; and removing and replacing the chain-and-flight solids collection equipment and adding isolation valves on the solids removal pump manifolds at Washwater Reclamation Plant No. 2.

**Engineer’s Estimate: \$3.5 million**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE*</b>
Griffith Company Brea, CA	\$2,392,000	\$478,960	20	Yes
Environmental Construction, Inc. Woodland Hills, CA	\$2,639,742	N/A	N/A	N/A
PPC Construction, Inc. Los Angeles, CA	\$2,718,970	N/A	N/A	N/A
J.F. Shea Construction, Inc. Walnut, CA	\$2,733,989	N/A	N/A	N/A
MMC, Inc. La Palma, CA	\$3,275,101	N/A	N/A	N/A
Cora Constructors, Inc. Palm Desert, CA	\$3,433,376	N/A	N/A	N/A
USS Cal Builders, Inc. Stanton, CA	\$3,636,000	N/A	N/A	N/A
Metro Builders & Engineers Group, Ltd. Newport Beach, CA	\$4,595,000	N/A	N/A	N/A

\*SBE (Small Business Enterprise) participation set at 20 percent

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on March 26, 2009 at 2:00 P.M.**  
**Specifications No. 1650A**  
**Robert A. Skinner Water Treatment Plant**  
**Maintenance Building Insulation Replacement**

The project consists of the removal of existing lead-contaminated insulation and replacement with new insulation at the interior walls and ceilings of the Weld Shop, Paint Shop, and Carpentry Shop in the Maintenance Building.

**Engineer's Estimate: \$108,000**

<b>Bidder and Location</b>	<b>Total</b>
The Teecor Group, Inc., Los Angeles, CA*	\$ 77,400
Capital Development, Inc., Los Angeles, CA	\$ 126,500
American Technologies Inc., Riverside, CA	\$ 129,500

\* Nonresponsive bid.

\*\* No SBE participation level was established for this contract.

# Robert A. Skinner Water Treatment Plant



