



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

3/10/2015 Board Meeting

8-5

Subject

Appropriate \$3.56 million; award \$2.09 million contract to Lasater Construction Company, Inc. to replace wastewater systems at the Julian Hinds and Eagle Mountain Pumping Plants; and authorize increase of \$110,000 to an agreement with MWH Americas for a new not-to-exceed total of \$1.01 million (Approp. 15385)

Executive Summary

This action awards a construction contract to replace wastewater collection systems and community septic tanks at the Julian Hinds and Eagle Mountain Pumping Plants. The wastewater systems have deteriorated over time in the harsh desert environment and need to be upgraded. This action also authorizes an amendment to an existing agreement for technical support during construction by the wastewater systems' design consultant.

Timing and Urgency

The existing wastewater systems at Metropolitan's Colorado River Aqueduct (CRA) pumping plants have deteriorated through over 70 years of continuous use. These systems are experiencing recurring problems such as plumbing and septic tank backups, clogged leach fields, broken and slow-draining collection pipes, and escaping odors. Metropolitan staff has replaced sections of the collection pipes and cleaned out septic tank backups repeatedly in recent years. When wastewater systems fail to operate effectively, groundwater and surface water pollution may occur. Staff recommends proceeding with replacement of the wastewater systems at the Julian Hinds and Eagle Mountain Pumping Plants at this time. The wastewater systems at the three remaining pumping plants will be addressed in future board actions.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Reliability project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2014/15.

Details

Background

Metropolitan's five pumping plants along the CRA are located in remote areas of Riverside and San Bernardino Counties, where municipal wastewater collection and treatment facilities are not available. Each plant is served by a community on-site wastewater system. These systems collect, treat, and dispose of domestic wastewater generated from bathrooms and kitchen facilities at the pumping plants, maintenance buildings, training/meeting rooms, guest lodges, and staff residences. The wastewater systems consist of three primary components: community septic tanks and leach fields; collector lines which convey wastewater to the septic tanks from throughout the pumping plant villages; and sewer laterals which convey wastewater from individual buildings to the collector lines. At the septic tanks, solid waste settles to the bottom of multiple chambers, where it undergoes biological treatment and is removed by pump truck at regular intervals. The liquid effluent is then dispersed through perforated pipes into subsurface soils at the leach fields. All of the on-site wastewater systems are permitted by the respective county Departments of Environmental Health. The systems are also subject to review by the Colorado River Basin Regional Water Quality Control Board to ensure that adequate setbacks from natural water courses are provided and that septic tank effluent quality is within an acceptable range.

The existing wastewater systems at the CRA pumping plants vary in capacity depending on the number of residents and buildings. At the Julian Hinds and Eagle Mountain Pumping Plants, the existing on-site wastewater systems feature gravity and force-main collection systems. The septic tanks at these locations process up to 9,000 and 14,000 gallons per day of wastewater, respectively. There is a total of approximately 13,400 feet of collector lines, sewer laterals, and leach field lines at the two pumping plants.

Each of the systems has been in operation for over 70 years and has deteriorated significantly. In general, the service life of septic tanks ranges from 40 to 60 years. The pumping plants have experienced repeated instances of slow-draining sinks and toilets, broken and clogged pipes, septic tank backups, clogged leach fields, and pump failures. During detailed investigations, staff identified that the concrete walls of the septic tanks have deteriorated and spalled beyond repair, and that the roofs are severely corroded. The leach fields have reached saturation, with limited capacity to effectively disperse the treated wastewater. A video inspection of the collector lines revealed cracks, broken pipe segments, root intrusion, and numerous collapses where the inspection camera could not pass through. The inspections also identified that significant portions of the collector lines are comprised of a low-grade pipe material which is not typically used in wastewater applications due to its short service life.

The scope of the rehabilitation work includes installation of approximately 11,600 feet of pipe, 34 manholes, and 5 septic tanks; abandonment of the existing septic tanks; and rehabilitation of a pump station at Julian Hinds Pumping Plant. The leach fields will be relocated at both plants, eliminating approximately 1,800 feet of collector lines. Cleanouts will also be provided at all bends and house connections to simplify maintenance, and relief valves will be provided to prevent backup into homes.

In December 2012, Metropolitan's Board authorized design to replace the wastewater systems at all five CRA pumping plants. Design for the Julian Hinds and Eagle Mountain Pumping Plants is complete, and staff recommends proceeding with construction at this time. Design for the Gene and Iron Mountain Pumping Plants is scheduled to be completed by late 2015, while preliminary design for Intake Pumping Plant is scheduled to be completed at the end of 2015. Due to the space constraints and discharge limitations at Intake, an alternate treatment technology is being considered for that location.

CRA Pumping Plant Wastewater System Replacement – Construction (\$3,560,000)

Specifications No. 1773 for the Julian Hinds and Eagle Mountain Pumping Plants Wastewater System Replacement was advertised for bids on December 4, 2014. As shown in [Attachment 2](#), six bids were received and opened on January 15, 2015. The low bid from Lasater Construction Company, Inc. in the amount of \$2.09 million complies with the requirements of the specifications. The five higher bids ranged from approximately \$2.2 million to \$3.2 million, while the engineer's estimate was \$1.73 million. Staff investigated the difference between the low bid and the engineer's estimate and attributes the difference to logistical challenges due to the remoteness of the job site and construction challenges to minimize disruptions to the plant and staff residences. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 22 percent of the bid amount. Lasater Construction Company, Inc. is an SBE firm, and thus achieves 100 percent participation. The subcontractors for this contract are listed in [Attachment 3](#).

This action appropriates \$3.56 million and awards a \$2.09 million construction contract to Lasater Construction Company, Inc. to replace wastewater systems at the Julian Hinds and Eagle Mountain Pumping Plants. In addition to the amount of the contract, the requested funds include \$655,000 for Metropolitan forces to perform plumbing/sewer modifications at buildings, disconnect abandoned connections, and rehabilitate the pump station at Julian Hinds Pumping Plant. Requested funds also include \$345,000 for construction inspection; \$110,000 for submittals review, technical support, and preparation of record drawings by MWH Americas, as discussed below; \$107,000 for permitting, contract administration, and project management; and \$253,000 for the remaining budget.

Construction inspection will be performed by Metropolitan staff. For this project, the anticipated cost of inspection is approximately 12.5 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. The total cost of construction for this project, which includes the contract and Metropolitan force activities, is \$2.74 million.

The total estimated cost to complete the replacement of wastewater systems at the Julian Hinds and Eagle Mountain Pumping Plants, including the amount appropriated to date and current funds requested, is approximately \$4.5 million.

Technical Services During Construction (MWH Americas) – Amendment to Existing Agreement

MWH Americas performed final design to replace the wastewater systems at the Julian Hinds and Eagle Mountain Pumping Plants. This work was performed under a board-authorized agreement. As the Engineer of Record, MWH Americas is recommended to provide technical support during construction. These activities will include reviewing submittals, responding to requests for information, advising staff on technical issues as they may arise, and preparing record drawings. For this agreement, Metropolitan has established a SBE participation level of 18 percent. MWH Americas has agreed to provide this level of participation. The planned subconsultant under this agreement is Cordoba Corporation.

This action authorizes an increase of \$110,000 to the existing agreement with MWH Americas for a new not-to-exceed total of \$1.01 million.

Summary

This action appropriates \$3.56 million, awards a \$2.09 million contract to Lasater Construction Company, Inc., and authorizes an amendment to the existing agreement with MWH Americas. This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2014/15 capital expenditure plan. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, [Attachment 3](#) for the List of Subcontractors, and [Attachment 4](#) for the Location Map.

The Julian Hinds and Eagle Mountain Pumping Plant Wastewater System Replacement project is included within capital Appropriation No. 15385, the CRA Discharge Containment Appropriation, which was initiated in fiscal year 2001/02. With the present action, the total funding for Appropriation No. 15385 will increase from \$4,304,000 to \$7,864,000.

Project Milestone

February 2016 – Completion of construction at Julian Hinds and Eagle Mountain Pumping Plants

Policy

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)

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed project involves the funding; final design; and minor alterations, reconstruction or replacement of existing public facilities along with the construction of minor appurtenant structures with no expansion of use and no possibility of significantly impacting the physical environment. In addition, the proposed project involves minor modifications in the condition of land, water, and/or vegetation which does not involve removal of healthy, mature, scenic trees. Accordingly, the proposed action qualifies under Class 1, Class 2, Class 3, and Class 4 Categorical Exemptions (Sections 15301, 15302, 15303, and 15304 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under four Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; and Class 4, Section 15304 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is categorically exempt, and

- a. Appropriate \$3.56 million;
- b. Award \$2.09 million contract to Lasater Construction Company, Inc. to replace the wastewater systems at Julian Hinds and Eagle Mountain Pumping Plants; and
- c. Authorize increase of \$110,000 to an agreement with MWH Americas for a new not-to-exceed total of \$1.01 million.

Fiscal Impact: \$3.56 million in capital funds under Approp. 15385

Business Analysis: This option will replace the existing deteriorated wastewater systems with reliable and efficient systems that comply with current environmental regulations.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: Under this option, maintenance costs would continue to increase, while the risk of costly urgent repairs and discharge violations would increase as the wastewater systems continue to degrade.

Staff Recommendation

Option #1


 _____ 2/12/2015
 Gordon Johnson Date
 Manager/Chief Engineer,
 Engineering Services


 _____ 2/23/2015
 Jeffrey Kightlinger Date
 General Manager

- [Attachment 1 – Financial Statement](#)
- [Attachment 2 – Abstract of Bids](#)
- [Attachment 3 – Subcontractors for Low Bidder](#)
- [Attachment 4 – Location Map](#)

Financial Statement for CRA Discharge Containment Appropriation

A breakdown of Board Action No. 9 for Appropriation No. 15385 for replacement of the wastewater systems at Julian Hinds and Eagle Mountain Pumping Plants¹ is as follows:

	Previous Total Appropriated Amount (Dec. 2012)	Current Board Action No. 9 (Mar. 2015)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 708,000	\$ -	\$ 708,000
Final Design	287,000	-	287,000
Owner Costs (Program mgmt., permitting, contract admin.)	588,200	107,000	695,200
Construction Inspection & Support	17,000	345,000	362,000
Metropolitan Force Construction	270,000	501,000	771,000
Materials & Supplies	65,000	154,000	219,000
Incidental Expenses	69,500	-	69,500
Professional/Technical Services	391,000	-	391,000
MWH Americas	900,000	110,000	1,010,000
Equipment Use	10,000	-	10,000
Contracts	541,000	2,090,000	2,631,000
Remaining Budget	457,300	253,000	710,300
Total	\$ 4,304,000	\$ 3,560,000	\$ 7,864,000

Funding Request

Appropriation Name:	CRA Discharge Containment		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15385	Board Action No.:	9
Requested Amount:	\$ 3,560,000	Budget Page No.:	277
Total Appropriated Amount:	\$ 7,864,000	Total Appropriation Estimate:	\$ 17,200,000

¹ The total amount expended to date on the Julian Hinds and Eagle Mountain Pumping Plants Wastewater System Replacement is approximately \$881,864. The total estimated cost to complete this project, including the amount appropriated to date and current funds requested, is approximately \$4.5 million.

The Metropolitan Water District of Southern California
Abstract of Bids Received on January 15, 2015 at 2:00 P.M.
Specifications No. 1773
Julian Hinds and Eagle Mountain Pumping Plants
Wastewater System Replacement

The project consists of replacing existing wastewater systems with new sewer mains, laterals, manholes, cleanouts, septic tanks, and leach fields.

Engineer's Estimate: \$1,730,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Lasater Construction Company, Inc. Encinitas, CA	\$ 2,090,000	\$ 2,090,000	100%	Yes
Gantry Constructors, Inc. Clarkdale, AZ	\$ 2,199,000	-	-	-
Hemet MFG. Co., Inc. dba Genesis Construction Co. Hemet, CA	\$ 2,395,777	-	-	-
Mladen Buntich Construction Co, Inc. Upland, CA	\$ 2,595,000	-	-	-
ARB, Inc. Lake Forest, CA	\$ 2,960,000	-	-	-
Atlas-Allied, Inc. Anaheim, CA	\$ 3,247,350	-	-	-

¹ SBE (Small Business Enterprise) participation level was established at 22% for this contract.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

Specifications No. 1773

**Julian Hinds and Eagle Mountain Pumping Plants
Wastewater System Replacement**

Low Bidder: Lasater Construction Company, Inc.

Subcontractor and Location
Underground Manholes, San Bernardino, CA
WMB & Associates, Grand Terrace, CA

Location Map

