• Engineering Services Key Activities for the Month of October 2007

Summary

Recent Events

October Firestorms Irvine Cross Feeder PCCP Inspection/Pennsylvania State College Perris Valley Pipeline Program Update Release of Untreated Water at Diemer Water Treatment Plant

- Integrated Area Studies
- Supply and Delivery Reliability:

Central Pool Augmentation Tunnel Geotechnical Feasibility Inland Feeder Program Mills Water Treatment Plant Capacity Upgrade Skinner Water Treatment Plant Expansion No. 4

Infrastructure Reliability:

CRA Conveyance Reliability Program

Diemer Water Treatment Plant Improvements Program

Weymouth Water Treatment Plant Improvements Program

Water Quality:

Distribution System – Treated Water Cross Connection Prevention Program Oxidation Retrofit Programs

Regulatory:

Chlorine Containment and Handling Facilities Energy Management Program

Attachments

Monthly Progress Report of Construction and Procurement Contracts for September 2007.

Detailed Report

This report details key engineering activities for the month of October 2007.

Recent Events:

October Firestorms: The recent fires and high winds have impacted Metropolitan's facilities. However, Metropolitan successfully met all water demands during these emergencies. The impacted facilities were as follows:

- OC -71 Service Connection The service connection suffered major fire damage from the Santiago Hills
 Fire in Orange County and has been out of service since October 21st (Figure 1). Staff has completed
 cleanup, and preliminary repairs to re-establish operation will be completed by November 11th.
 Metropolitan is currently delivering water to Irvine Ranch Water District through alternate service
 connections.
- OC-72 Service Connection and OC-88 Pumping Plant A SCE power outage occurred at both facilities from fire damage. Water deliveries were maintained during the power disruption at OC-72, and flows were changed as necessary with the use of emergency generators. Power was restored and water deliveries commenced at the OC-88 pumping plant by October 29th.
- Mills Plant The City of Riverside power feed to this plant was interrupted, but water deliveries were maintained with the use of emergency generators.
- Red Mountain Hydroelectric Plant The plant experienced interruption of service due to PG&E power and communication outages from the Temecula Fire. A standby generator was used to make flow changes at the Red Mountain Pressure Control Structure.
- DVL Hiram Wadsworth Pumping Plant Service was temporarily interrupted due to a power outage from high winds. Deliveries from DVL were maintained during this disruption.

Metropolitan's Damage Assessment Teams assessed the condition of impacted sites to determine whether Water Systems Operations personnel could safely enter facilities to perform clean-up operations. Staff is coordinating with member agencies, local, state and federal agencies on plans to repair and return damaged facilities back to service.



Figure 1: Fire damage at OC - 71 service connection

Recent Events (cont.):

Perris Valley Pipeline Program Update: Construction of the Perris Valley Pipeline North Reach commenced in October. The contractor performed temporary street improvements along Alessandro Boulevard to accommodate the relocation of traffic during construction. Concurrently, trench excavation and pipe installation are underway adjacent to the I-215 freeway and at the Mills plant.

Irvine Cross Feeder PCCP Inspection/ Pennsylvania State College: On November 5, 2007, a crew from Pennsylvania State College filmed the electromagnetic inspection of Metropolitan's Irvine Cross Feeder. The Irvine Cross Feeder is a prestressed concrete cylinder pipeline (PCCP) which is 42 inches in diameter and 0.9 mile in length. The film will explore innovative solutions being developed by engineers to address infrastructure rehabilitation needs and will be offered to public television stations for broadcast.



Figure 2: Perris Valley Pipeline North Reach construction

Release of Untreated Water at Diemer Water Treatment Plant: On October 29, 2007, a contractor broke a six-inch raw water line at the Diemer Plant. This resulted in a release of approximately 500 gallons of untreated water into the outlet of Diemer's finished water reservoir via an out-of-service chlorine solution line. The release was immediately isolated by on-site personnel and special sampling was initiated at the reservoir outlet. The California Department of Public Health (CDPH) was notified of the incident and of Metropolitan's actions taken. Due to the 5000-to-1 dilution factor and maintenance of total chlorine residual, CDPH did not require public notification but requested enhanced monitoring level notification of downstream agencies. Water samples collected in response to this incident were negative for coliforms and other pathogens. During the incident, staff worked to ensure that the leak was minimized as quickly as possible and that appropriate mitigation measures were put into place. As a result of this incident, management conducted an evaluation of the events leading up to the event and identified methods to prevent a similar occurrence in the future.

Integrated Area Studies: The collaborative Integrated Area Studies (IAS) process has been aimed at better integrating local and regional planning efforts and clarifying policy issues related to facility planning. The IAS effort involves technical discussions, demand projections, determination of facility needs, policy clarifications, and project evaluations. Four independent studies were undertaken to focus on specific portions of Metropolitan's service area and joint meetings were conducted to discuss policy issues.

In October, staff completed the draft IAS Technical Report that documents the process and findings. The draft report will be distributed to the four member agency IAS teams for review and comment in early November. A joint IAS meeting is planned for November 15th to collect comments. Staff also began working with member agencies on IAS action items, including initiating a closer review of local and regional distribution facilities necessary to balance flows between the Mills and Skinner plants.

Supply and Delivery Reliability:

Central Pool Augmentation (CPA) Tunnel Geotechnical Feasibility: In June 2006, Metropolitan's Board authorized geotechnical and geological investigations along the CPA Tunnel alignment through the Cleveland National Forest, in order to assess the economic feasibility of the approved tunnel alignment. The geotechnical investigation consists of a field exploration phase and a data analysis phase. Field explorations commenced in February 2007 with the drilling of two boreholes in the Cleveland National Forest to depths of 2,512 feet and 2,184 feet below ground surface (Figure 3).

Piezometers were installed in the boreholes to record groundwater table elevations. The data will be used to better understand the behavior of groundwater and the pressure it will exert on the tunnel. Laboratory testing continues and the data analysis phase will be completed by December 2007. Following completion of the data analysis, tunnel feasibility studies will commence.



Figure 3: Monument depicting location of borehole

Supply and Delivery Reliability (cont.):

Inland Feeder Program: The program consists of 44 miles of pipeline and tunnels that will enable Metropolitan to convey up to 1,000 cubic feet per second of State Water Project supplies from Devil Canyon Afterbay to Diamond Valley Lake. Eight of nine construction contracts have been completed. Recent activities include the following:

- Arrowhead East Tunnel (AET) In September, the geology along the alignment remained favorable for mining and the tunnel boring machine (TBM) advanced 895 feet. Another 300 feet were mined during the first two weeks of October for a total of 20,540 feet (91 percent of the tunnel's length) to date. The contractor is beginning to mobilize facilities at the City Creek Portal in anticipation of TBM hole-through in the first quarter of 2008. One of the first activities undertaken in this area is the construction of the settling ponds for the water treatment plant at City Creek Portal (Figure 4).
- Arrowhead West Tunnel (AWT) Stable geologic conditions continued through August and into early September, which resulted in good mining progress. The TBM mined 710 feet in August and another 375 feet through the first two weeks of October for a total of 14,190 feet (71 percent of the tunnel's length) to date.

The Arrowhead Tunnels are expected to be completed in 2010, and the program is within the Board-approved budget of \$1.186 billion.



Figure 4: Arrowhead Tunnels installation of pond liner for the temporary tunnel discharge water treatment plant at City Creek Portal

Supply and Delivery Reliability (cont.):

Mills Water Treatment Capacity Upgrade: This program will upgrade specific components of the Mills plant to match the plant's hydraulic capacity of 326 mgd. The program consists of five projects. Recent activities include the following:

- Ozone Contactors Nos. 3 and 4 Under the completed Mills ORP project, Ozone Contactors Nos. 1 and 2 were installed with a combined capacity of 160 mgd. To increase the ozonation capacity to 326 mgd, two new ozone contactors are required. Construction of Contactors Nos. 3 and 4 is 9 percent complete and completion is scheduled for mid-2009. Figure 5 shows demolition of the concrete protecting the existing rebar dowels and construction joints for Contactors Nos. 3 and 4.
- <u>Modules Nos. 1 and 2 Rehabilitation</u> To fully upgrade the Mills plant, Modules Nos. 1 and 2 will be rehabilitated and returned to service. Final design is 65 percent complete and is scheduled to be completed in the second quarter of 2008.
- <u>Solids Handling Upgrade</u> A study was completed in October 2007 to assess whether operational changes, upgrades of the lagoons, and/or new facilities (thickeners, washwater reclamation plant, mechanical dewatering equipment and storage) are required to reliably treat the plant's full 326-mgd capacity. Staff is preparing recommendations for moving forward with the upgrade work.
- <u>Chemical System Capacity Upgrades</u> Portions of the existing chemical facilities will be upgraded to support the full 326-mgd plant capacity. Final design is 65 percent complete and is scheduled to be completed in the second quarter of 2008.

The program is on schedule to be completed in 2011/12 and is within budget.



Figure 5: Demolition of concrete around existing rebar dowels for Mills Contactors Nos. 3 & 4

Supply and Delivery Reliability (cont.):

Skinner Water Treatment Plant Expansion No. 4: This program includes construction of a new 110-mgd water treatment module (Module No. 7) and supporting facilities. The work was completed under multiple construction contracts.

- Washwater Reclamation Plant No. 3 was completed in December 2006.
- Module No. 7 was placed into service on July 5, 2007 and provides an additional 110 mgd of treatment capacity at the Skinner plant.
- The Chemical Systems Modifications construction is complete; start-up and testing of the facilities are currently underway (Figure 6). All new chemical systems including the chlorine containment and handling facilities will be placed into service by the end of November 2007.

The overall program is on schedule and is within budget.



Figure 6: Chemical feed systems

Infrastructure Reliability:

CRA Conveyance and Reliability Program: This program was initiated to rehabilitate facilities and maintain reliability of the Colorado River Aqueduct (CRA) system. Recent activities include the following:

- <u>CRA Rehabilitation and Improvements</u> This project involved replacing all of the deteriorated cast-iron blow-offs with new stainless steel outlets, installing internal seals to repair cracks on the Freda Siphon and Lakeview siphons, and recoating radial gates at the San Jacinto Diversion Structure and Casa Loma Canal. Construction was completed in June 2007.
- <u>CRA Rehabilitation Phase 6</u> This project involves rehabilitating deteriorated slide gates (Figure 7) and electrical equipment at the San Jacinto Diversion Structure, and replacing valves and installing a security fence at the Desert Water/Coachella Valley discharge structure located at the Whitewater River. A construction contract was awarded by the Board in September 2007. Construction is scheduled to be completed by June 2009.
- <u>Dam Sluiceways and Outlets Rehabilitation</u> This project involves rehabilitation of Gene Wash Dam and Copper Basin Dam outlet structures and rehabilitation of Copper Basin Reservoir outlet gates.
 Preliminary design is scheduled to be completed by December 2007.

The program is on schedule to be completed in fiscal year 2009/10 and is within budget.



Figure 7: Corroded slide gates at San Jacinto Diversion Structure to be refurbished

Infrastructure Reliability:

Diemer Water Treatment Plant Improvements Program: This program was initiated to maintain reliability and improve operating efficiency of the Diemer plant through specific improvements projects. The program currently contains 19 projects, of which 9 have been completed. Recent activities include the following:

- <u>Hatch Covers Replacement</u> Final design is complete. The work will be advertised for bids in November 2007.
- <u>Washwater Tank Pump Replacement</u> Construction is complete and as-built drawings are being prepared.
- <u>Finished Water Reservoir Seismic Upgrade</u> Preliminary design is underway and scheduled for completion by December 2007. Final design is scheduled to commence in February 2008.
- <u>East Washwater Tank Seismic Study</u> This study is 85 percent complete and is scheduled for completion in November 2007.
- <u>Filter Outlet Line Slope Remediation</u> This study is 70 percent complete and is scheduled for completion in December 2007.

The program is on schedule to be completed in fiscal year 2010/11 and is within budget.



Figure 8: East Washwater Tank

Infrastructure Reliability (cont.):

Weymouth Water Treatment Plant Improvements Program: This program was initiated to maintain reliability and improve the operating efficiency of the Weymouth plant through specific improvements projects. The program currently contains 17 projects. Recent activities include the following:

- <u>La Verne Power System Upgrade Project</u> Final design is 12 percent complete and is scheduled to be completed in February 2009.
- Weymouth Perimeter Improvements The Weymouth perimeter improvements will be constructed in several phases. Construction of Phase 1 improvements along the west plant boundary is scheduled to be completed by November 2007 (Figure 9). Construction of the second phase, which includes landscaping and perimeter improvements along the north and south plant boundaries, is scheduled for completion by January 2008.
- <u>Junction Structure Seismic Upgrades</u> In a December 2006 shutdown, Metropolitan staff observed leakage from the valves on either side of the Weymouth Junction Structure. Staff is planning a request for Board authorization in December 2007 to include repair of these valves with the planned upgrade of the junction structure.
- <u>Plant Operations & Maintenance Center</u> Construction is 10 percent complete and is scheduled to be completed in May 2008.
- <u>Basin No. 1 Flocculator Rehabilitation</u> During October, Metropolitan forces continued the fabrication of 36 new flocculators for Basin No. 1. These new flocculators will be installed by March 2008.
- <u>Weymouth Microturbines</u> Electrical systems are being installed. Start-up is anticipated in January 2008.

The program is on schedule to be completed in fiscal year 2010/11 and is within budget.



Figure 9: West side (Moreno avenue) of Weymouth perimeter improvements

Water Quality:

Distribution System – Treated Water Cross Connection Prevention Program: This program will relocate air release and vacuum valves on treated-water feeders from subsurface vaults to above-ground locations to eliminate potential cross connections. The valves at 160 sites have been relocated to date, with another 300 sites scheduled to be modified under 12 separate construction contracts.

The initial three construction contracts, which address 74 sites, are approximately 40 percent complete and are scheduled to be completed by February 2008. Final designs of Contracts Nos. 4, 5, and 6, which address 75 sites, are 90 percent complete and are scheduled to be completed by December 2007. Final designs of Contracts Nos. 7 through 12, which address the remaining 151 sites, are 40 percent complete and are scheduled to be completed by June 2008. Figure 10 shows removal of an existing air-vacuum relief valve.

The program is on schedule to be completed in fiscal year 2012/13 and is within budget.



Figure 10: Removing air-vacuum relief valve

Water Quality (cont.):

Oxidation Retrofit Program: This program was established to reduce the level of disinfection by-products in the finished water at all five of Metropolitan's treatment plants in order to meet state and federal drinking water regulations and to remove blend or plant capacity restrictions at the three blend plants. Recent activities include the following:

- <u>Mills Plant</u> The plant's ozone system became fully operational in March 2003. In June 2007, the Board awarded a construction contract for two additional ozone contactors to upgrade the plant's ozonation system capacity to 326 mgd. The contractor has mobilized and site work has commenced. The contract completion date for Contactors Nos. 3 & 4 is mid-2009, while installation of the ozone equipment is scheduled to be completed by September 2009.
- <u>Jensen Plant</u> The plant's ozone system became fully operational on July 1, 2005.
- <u>Skinner Plant</u> Construction is approximately 65 percent complete and contract completion is scheduled for January 2009 (Figure 11).
- Weymouth Plant Final design is complete and bids were opened on July 13, 2007. All bids have been rejected.
- <u>Diemer Plant</u> Construction of the ORP site preparation is approximately 82 percent complete and is scheduled for completion in December 2007. Construction of the Vehicle Maintenance Center is complete and the contractor is working on punch list items. Construction of Phase I of the Chemical Tank Farm Improvements for the ORP was completed in August 2007 by the contractor and some minor improvements are being worked on by District Construction Forces. Final design of the ozone facilities is scheduled to be completed in October 2007.



Figure 11: Skinner ozone contactors

Regulatory:

Chlorine Containment and Handling Facilities: This program includes addition of facilities to handle and contain chlorine to minimize the possibility of a chlorine leak. Recent activities include the following:

- <u>Diemer and Weymouth Plants</u> The Diemer and Weymouth projects were completed in 2002 and 2005, respectively, and are fully operational.
- <u>Skinner Plant</u> Construction of the chlorine containment facilities is complete, and start-up testing is underway.
- <u>Jensen Plant</u> Construction of the chlorine containment facilities is 42 percent complete. The temporary unloading platform has been placed into full operation, and demolition of the old unloading shed was completed in July. Figure 12 shows work on the railcar storage building.
- <u>Mills Plant</u> Construction of the chlorine containment facilities is 70 percent complete, and start-up testing for Phase 1 construction is underway.

The program is on schedule to be completed in fiscal year 2010/11 and is within budget.



Figure 12: Concrete formwork for railcar storage building at Jensen

Regulatory (cont.):

Energy Management:

- In July, Metropolitan submitted its Greenhouse House Gas (GHG) emissions inventory data for 2005 and 2006 to the California Climate Action Registry.
- In September, Metropolitan released RFP No. 841 seeking proposals from Climate Action Registry-approved firms to certify Metropolitan's GHG emissions inventory. Certification involves evaluating whether Metropolitan's GHG emissions reporting program is consistent with the Registry's General Reporting Protocol. The consultant will report their findings to Metropolitan and the Registry. Upon final certification, Metropolitan's data will be publicly available through the CA Climate Action Registry.
- In October, Metropolitan and Los Angeles Department of Water and Power staff performed an energy efficiency audit at the Jensen plant. This is the third energy audit conducted at Metropolitan water treatment plants. Previous audits have resulted in a number of recommendations including: replacement of flocculator two-speed motors with variable frequency drives, lighting system retrofits, and installation of occupancy sensors and programmable HVAC thermostats.

MONTHLY PROGRESS REPORT OF CONSTRUCTION AND PROCUREMENT CONTRACTS September 2007

(Progress Through September 25, 2007)

Summary of Progress									
		Construction	Related Pro	ocurement					
Number of Contracts		21	4						
Total Bid Amount of Contracts in Progress	\$	929,703,570	\$	44,806,434					
Number of Contracts Awarded This Month		2	0	1					
Total Bid Amount of Contracts Awarded This Month	\$	5,529,610	-						
Contract Gross Earnings This Month*	\$	24,582,387	\$	3,150,573					

*Note: Earnings reflected in this report represent the value of the work performed by the contractor through the 25th day of the month. Earnings include contract retention and other similar deductions from amounts earned by the contractor but otherwise required to be withheld by Metropolitan by law or by contract. Further, payments are made in the month following the performance of the work. For these reasons, contract payments reflected in Metropolitan's financial system will be less than the earnings shown in this report until the final payment has been made to the contractor.

Contracts Awarded This Month

Contract No. 1653, CRA Reliability Program Phase 6, in the amount of \$3,382,110, was awarded to Abhe & Svoboda, Inc. The project consists of rehabilitating deteriorated slide gates and upgrading electrical equipment at the San Jacinto Diversion Structure, and replacing valves and installing a security fence at the Desert Water/Coachella Valley discharge structure located at the Whitewater River.

Contract No. 1654, Rialto Pipeline Improvements Phase 2, in the amount of \$2,147,500, was awarded to Brutoco Engineering & Construction, Inc. The project consists of construction of a new isolation bulkhead structure with removable spool piece, replacement of 30 feet of PCCP with 120-inch diameter welded steel pipe, and installation of 96-inch diameter sectionalizing valves in existing vault structures. The removable spool piece and 96-inch diameter valves are furnished by Metropolitan.

Contracts Completed This Month

Procurement Contract No. 1624, Butterfly Valves for the Second Lower Cross Feeder, Rialto Pipeline, and the Perris Valley Pipeline, was completed.

Summaries/Status of Contracts

The summaries/status of current construction and construction-related procurement contracts are provided on the following pages.

(Progress Through September 25, 2007)

Summary of Construction Contracts (Page 1 of 3)

			Sun	nma	ry of Construct	ion	Contracts (I	Summary of Construction Contracts (Page 1 of 3)											
Cont. No.	Spec. No.	Feature	Contractor		Contract Amount		rnings This Month		Earnings To Date	Net Extra Work To Date		Start Date	Contract Completion Date	Estimated Completion Date	Estimated Percent Complete				
		Inland Feeder Contract			Projected Cost to Complete														
1542	1437	Arrowhead Tunnels Project ¹	J. F. Shea Const Inc/Kenny Const Co., JV	\$	397,000,000	\$	5,325,943	\$	243,959,646		N/A	8/2/02	9/15/10	9/10	61%				
		Inland Feeder Totals	<u> </u>	\$	397,000,000	\$	5,325,943	\$	243,959,646	\$	-								
		Miscellaneous Contracts			Bid Amount														
1607	1504	Robert B. Diemer Water Treatment Plant Entrance Relocation, Vehicle Maintenance Center, and Solids Handling Facilities	Brutoco Engineering & Construction, Inc.	\$	29,260,000	\$	361,629	\$	29,906,215	\$	806,755	6/13/05	6/15/07	10/07 ²	99%				
1609	1483	Robert A. Skinner Water Treatment Plant Oxidation Retrofit Program and Washwater Reclamation Plant No. 3	Shimmick Construction/Obayashi Corp. JV	\$	184,650,000	\$	7,736,235	\$	123,265,077	\$	3,166,095	7/28/05	1/15/09	1/09	66%				
1616	1498	Robert A. Skinner Water Treatment Plant Chemical Systems Modifications	Kiewit Pacific Co.	\$	109,944,000	\$	238,365	\$	115,643,461	\$	5,321,428	11/28/05	6/7/07	10/07 ²	99%				
1619	1400	Henry J. Mills Water Treatment Plant Main Entrance Road Realignment and Perimeter Landscaping	Mega Way Enterprises	\$	3,295,000	\$	3,541	\$	3,180,389	\$	-	1/25/06	10/26/07	10/07	97%				
1620	1495	Robert B. Diemer Water Treatment Plant Oxidation Retrofit Program Chemical System Upgrades	Brutoco Engineering & Construction, Inc.	\$	13,960,000	\$	-	\$	14,408,404	\$	448,404	1/13/06	8/14/07	10/07	99%³				
1628	1517	Henry J. Mills Water Treatment Plant Chemical System Upgrades	J. R. Filanc Construction Co., Inc.	\$	19,914,600	\$	73,164	\$	14,283,888	\$	172,835	5/2/06	2/8/08	2/08	71%				
1631	1535	Diemer Water Treatment Plant Site Preparation for Oxidation Retrofit Program	Kiewit Pacific Co.	\$	70,516,455	\$	7,447,500	\$	58,409,138	\$	353,807	5/15/06	2/27/08	2/08	82%				

¹ Earnings for this project are as of August 25, 2007.

²Time extension pending.

³Contract accepted as substantially complete. Punch list work remains.

(Progress Through September 25, 2007)

Summary of Construction Contracts (Page 2 of 3)

	Summary of Construction Contracts (Page 2 of 3)														
Cont. No.	Spec. No.	Feature	Contractor	Cont	Contract Amount		Earnings This Month		Earnings To Date		let Extra rk To Date	Start Date	Contract Completion Date	Estimated Completion Date	Estimated Percent Complete
		Miscellaneous Contracts		1	Bid Amount										
1632	1518A	F. E. Weymouth Water Treatment Plant Chemical System Upgrades	Brutoco Engineering & Construction, Inc.	\$	3,985,000	\$	72,336	\$	4,137,580	\$	158,180	6/19/06	11/28/07	11/07	99%
1633		Joseph Jensen Water Treatment Plant Jensen Chlorine Containment and Fluoride Project	Brutoco Engineering & Construction, Inc.	\$	19,988,000	\$	413,650	\$	9,694,558	\$	246,979	8/29/06	7/3/08	7/08	48%
1636	1546A	F. E. Weymouth Water Treatment Plant Perimeter Improvements, Phase I	Pima Corp. dba Advanced Construction	\$	2,648,710	\$	204,457	\$	2,591,769	\$	66,649	10/24/06	10/8/07	10/07	95%
1640	1542	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No.1	Steve P. Rados, Inc.	\$	2,806,400	\$	189,165	\$	1,149,919	\$	-	12/18/06	12/27/07	12/07	41%
1642	1543	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 2	PPC Construction, Inc.	\$	1,195,115	\$	99,750	\$	337,776	\$	-	1/2/07	10/26/07	12/07 ²	28%
1643		Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 3	Abhe & Svoboda, Inc.	\$	1,678,240	\$	442,730	\$	1,372,449	\$	-	1/2/07	10/25/07	10/07	82%
1646		F. E. Weymouth Water Treatment Plant Perimeter Improvements, Phase II	Pima Corp. dba Advanced Construction	\$	413,240	\$	36,100	\$	196,966	\$	-	4/19/07	1/7/08	1/08	48%
1649		F. E. Weymouth Water Treatment Plant Operations and Maintenance Building	Brutoco Engineering & Construction, Inc.	\$	9,030,000	\$	295,827	\$	915,634	\$	-	7/13/07	5/26/08	5/08	10%
1650	1549	Henry J. Mills Water Treatment Plant Ozone Contactors 3 and 4	C.W. Roen Construction Co.	\$	14,556,000	\$	685,000	\$	1,385,000	\$	-	7/25/07	5/18/09	5/09	10%

(Progress Through September 25, 2007)

Summary of Construction Contracts (Page 3 of 3)

Cont. No.	Spec. No.	Feature	Contractor	Co	Contract Amount		Earnings This Month				Net Extra ork To Date	Start Date	Contract Completion Date	Estimated Completion Date	Estimated Percent Complete
		Miscellaneous Contracts			Bid Amount										
1651	1589	Perris Valley Pipeline, North Reach	W.A. Rasic Construction Co., Inc.	\$	39,250,000	\$	956,995	\$	1,621,995	\$	1,295	8/7/07	8/1/08	8/08	4%
1652	1587	Lakeview Pipeline Cathodic Protection	Farwest Corrosion Control Company	\$	83,200	\$	-	\$	-	\$	-	8/20/07	2/12/08	2/08	0%
1653	1568	CRA Reliability Program Phase 6	Abhe & Svoboda, Inc.	\$	3,382,110	\$	-	\$	-	\$	-	10/8/07	5/7/09	5/09	0%
1654	1565	Rialto Pipeline Improvements Phase II	Brutoco Engineering & Construction, Inc.	\$	2,147,500	\$	-	\$	-	\$	-	10/8/07	9/4/08	9/08	0%
				\$	532,703,570	\$ 1	19,256,444	\$	382,500,218	\$	10,742,427				
		Total Value of Construction	on Contracts in Progress	\$	929,703,570	\$ 2	4,582,387	\$	626,459,864	\$	10,742,427				

MWDMETROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

(Progress Through September 25, 2007)

Cont. No.	Spec. No.	Feature	Contractor	Bid Amount	Estimated Final Earnings	Total Net Value of Extra Work	Date Work Accepted	Date Notice of Completion Recorded	Date Final Payment Due
1624	1552	ICross Feeder Rigito Pineline and the	Hughes Water & Sewer Ltd.	\$ 2,708,964	\$ 2,688,364	\$ -	N/A	N/A	

			Sumi	mary	y of Procurem	ent	Contracts					
Cont. No.	Spec. No.	Feature	Contractor	E	Bid Amount	Ea	rnings This Month	Ear	nings to Date	Starting Date	Delivery Date	Remarks
1582	1480	Oxygen/Ozone System Equipment for the Robert A. Skinner Water Treatment Plant Oxidation Retrofit Program	Ozonia North America	\$	8,409,000	\$	-	\$	6,196,004	6/22/04	11/30/08	Payments on this contract are made quarterly
1622	1515A	Oxygen/Ozone System Equipment for the Robert B. Diemer and F. E. Weymouth Water Treatment Plants Oxidation Retrofit Program	Ozonia North America	\$	15,733,300	\$	462,209	\$	1,406,101	2/2/06	6/3/10	Payments on this contract are made quarterly
1624	1552	Butterfly Valves for the Second Lower Cross Feeder, Rialto Pipeline, and the Perris Valley Pipeline	Hughes Water & Sewer Ltd.	\$	2,708,964	\$	2,688,364	\$	2,688,364	2/21/06	7/26/07	
1645	1547	Steel Pipe and Fittings for Perris Valley Pipeline	Northwest Pipe Company	\$	17,955,170	\$	-	\$	10,291,057	3/5/07	11/1/08	
		Total Value of Procurement	t Contracts in Progress	\$	44,806,434	\$	3,150,573	\$	20,581,526			



Contract No. 1542 Specifications No. 1437

Contractor: J. F. Shea Const Inc/Kenny Const Co., JV

Scope of Work:

The project consists of purchasing two tunnel boring machines (TBMs); excavating two 12-foot interior finished diameter tunnels; constructing three portal structures; furnishing and installing a precast concrete segmental liner and a final liner for the Arrowhead West tunnel. Project modified to a cost reimbursable contract effective April 26, 2006.

At a Glance:

Estimated Percent Complete 61%

Estimated Completion Date September 2010 Details:

Projected Cost to Complete \$397,000,000 Earnings To Date \$243,959,646 *

Earnings This Month \$5,325,943 *

8/2/02 Contract Start

9/15/10 Contract Completion

Contract No. 1607 **Robert B. Diemer Water Treatment Plant Entrance Relocation, Vehicle Maintenance Center,** Specifications No. 1504 and Solids Handling Facilities Brutoco Engineering & Construction, Inc.

6/15/07 *

Inland Feeder Program

Arrowhead Tunnels Project

Construction of water treatment plant ponds at City Creek Portal

Contractor:

Scope: The work consists of construction of gravity thickeners; a solids

dewatering facility building; a truck loading facility; elevated solids storage hoppers; a pump station; vehicle maintenance building; and entrance gate facilities.

At a Glance:

Estimated Percent Complete 99% Percent Extra Work 2.8% **Estimated Completion Date** October 2007 Details: **Bid Amount** \$29,260,000 Earnings To Date \$29,906,215 Net Extra Work To Date \$806,755 Earnings This Month \$361,629 Net Extra Work This Month \$50,369 Contract Start 6/13/05 **Duration in Working Days** 350

New solids handling facility

Contract Completion

^{*}Earnings for this project are as of August 25, 2007.

^{**}Time extension pending.



Contract No.	1609
Specifications No.	1483

Contractor: Shimmick Construction/Obayashi Corp. JV

Scope:

The work consists of construction of buildings and water treatment structures, washwater reclamation plant, chemical and liquid oxygen facilities, cooling water pump station, power substation, switchgear building, and associated work.

Robert A. Skinner Water Treatment Plant Oxidation Retrofit Program and Washwater Reclamation Plant No. 3



Excavation for Plant No. 1 inlet line

At a Glance:

Estimated Percent Complete 66% Percent Extra Work 1.7% **Estimated Completion Date** January 2009 Details: Bid Amount \$184,650,000 Earnings To Date \$123,265,077 Net Extra Work To Date \$3,166,095 Earnings This Month \$7,736,235 Net Extra Work This Month \$270,889 7/28/05 Contract Start **Duration in Working Days** 865

1/15/09

Contract No. 1616 Specifications No. 1498

Contractor: Kiewit Pacific Co.

Contract Completion

Scope:

The work consists of the construction of a chlorine containment and handling facility, water quality monitoring vaults, chemical tank farms, pipe galleries, and new utilities; installation of plant compressed air systems and associated work.

Robert A. Skinner Water Treatment Plant Chemical Systems Modifications

At a Glance:	
Estimated Percent Complete	99%
Percent Extra Work	4.8%
Estimated Completion Date	October 2007
Details:	
Bid Amount	\$109,944,000
Earnings To Date	\$115,643,461
Net Extra Work To Date	\$5,321,428
Earnings This Month	\$238,365
Net Extra Work This Month	\$0
Contract Start	11/28/05
Duration in Working Days	380
Contract Completion	6/7/07 *



New chlorine building

^{*}Time extension pending.

Contract No.	1619
Specifications No.	1400

Contractor: Mega Way Enterprises

Scope:

The work consists of constructing a new entrance road, a guard station, new fencing, and landscaping.

Henry J. Mills Water Treatment Plant Main Entrance Road Realignment and Perimeter Landscaping



New landscaping

At a Glance:

Estimated Percent Complete 97% Percent Extra Work 0.00% Estimated Completion Date October 2007 Details: Bid Amount \$3,295,000 Earnings To Date \$3,180,389 Net Extra Work To Date Earnings This Month \$3.541 Net Extra Work This Month \$0 Contract Start 1/25/06 **Duration in Working Days** 365

10/26/07

Contract No. 1620
Specifications No. 1495
Contractor: Brutoco Engineering & Construction, Inc.

Scope:

At a Glance:

Contract Completion

Contract Completion

The work consists of demolition of existing washwater reclamation facility; construction of sulfuric acid feed and storage system and three other chemical storage tanks; and installation of chemical trenches and chemical lines.

Robert B. Diemer Water Treatment Plant Oxidation Retrofit Program Chemical System Upgrades



Fluoride pump manifold

99%
3.2%
October 2007
\$13,960,000
\$14,408,404
\$448,404
\$0
\$0
1/13/06
270

^{*}Contract accepted as substantially complete on August 15, 2007. Punch list work remains.

8/14/07

Contract No.	1628
Specifications No.	1517

Contractor: J. R. Filanc Construction Co., Inc.

Scope:

The work consists of construction of new chlorine containment facility including truck unloading and acid storage buildings, evaporator room, injection facility, and chlorine scrubber areas.

Henry J. Mills Water Treatment Plant Chemical System Upgrades



New fluoride facility

At a Glance:

Estimated Percent Complete 71% Percent Extra Work 0.87% **Estimated Completion Date** February 2008 Details: **Bid Amount** \$19,914,600 Earnings To Date \$14,283,888 Net Extra Work To Date \$172,835 Earnings This Month \$73,164 Net Extra Work This Month \$0 Contract Start 5/2/06 **Duration in Working Days** 360 2/8/08 Contract Completion

Contract No. 1631 Specifications No. 1535

Contractor: Kiewit Pacific Co.

Scope:

The work consists of demolition of shop building, underground fuel tanks, and steel pipelines; installation of more than 3,000 feet of steel pipe, motor control center, remote transmitting unit, LPG tank and vaporizer, subdrain systems, and associated work.

Diemer Water Treatment Plant Site Preparation for Oxidation Retrofit Program



Restoration of slope, with placement of roller-compacted concrete in background

At a Glance:

Estimated Percent Complete 82% 0.50% Percent Extra Work **Estimated Completion Date** February 2008 Details: Bid Amount \$70,516,455 Earnings To Date \$58,409,138 Net Extra Work To Date \$353,807 Earnings This Month \$7,447,500 Net Extra Work This Month \$31,910 Contract Start 5/15/06 445 **Duration in Working Days** 2/27/08 Contract Completion



Contract No. 1632
Specifications No. 1518A
Contractor: Brutoco Engineering & Construction, Inc.

The work consists of construction of fluorosilicic acid unloading, storage and injection facilities, steel roof canopies, and associated work.

F. E. Weymouth Water Treatment Plant Chemical System Upgrades



New fluoride facility

At a Glance:

Estimated Percent Complete 99% Percent Extra Work 4.0% **Estimated Completion Date** November 2007 Details: **Bid Amount** \$3,985,000 Earnings To Date \$4,137,580 Net Extra Work To Date \$158,180 Earnings This Month \$72,336 Net Extra Work This Month \$70,936 Contract Start 6/19/06 Duration in Working Days 360

11/28/07

7/3/08

Contract No. 1633

Specifications No. 1516A

Contractor: Brutoco Engineering & Construction, Inc.

Scope:

Contract Completion

The work consists of construction of new chlorine containment facility, evaporator room, and chlorine scrubber area, new fluorosilicic acid unloading, storage and injection facility, and associated work.

Joseph Jensen Water Treatment Plant Jensen Chlorine Containment and Fluoride Project



Placement of concrete for new electrical room vault

At a Glance:

Contract Completion

Estimated Percent Complete 48% Percent Extra Work 1.2% **Estimated Completion Date** July 2008 Details: \$19,988,000 **Bid Amount** Earnings To Date \$9,694,558 Net Extra Work To Date \$246,979 Earnings This Month \$413,650 Net Extra Work This Month \$0 Contract Start 8/29/06 **Duration in Working Days** 460

Contract No. 1636

Specifications No. 1546A

Contractor: Pima Corp. dba Advanced Construction

Scope:

The work consists of landscape, lighting and irrigation improvements; decorative fencing; and extending paved parking.

F. E. Weymouth Water Treatment Plant Perimeter Improvements, Phase I



Planting of new trees along Sedalia Avenue

At a Glance:

Estimated Percent Complete 95% Percent Extra Work 2.5% Estimated Completion Date October 2007 Details: **Bid Amount** \$2,648,710 Earnings To Date \$2,591,769 Net Extra Work To Date \$66,649 Earnings This Month \$204,457 Net Extra Work This Month \$41,437 Contract Start 10/24/06 **Duration in Working Days** 160 Contract Completion 10/8/07

Contract No. 1640 Specifications No. 1542

Contractor: Steve P. Rados, Inc.

Scope:

The work consists of furnishing new replacement valves, pipes, and fittings for Metropolitan's inventory; removal of existing subsurface vacuum and air release valves; abatement of lead, PCBs and asbestos-containing material inside subsurface vaults; and modification and extension of piping system for installation of new vacuum and air release valves at aboveground locations within the cities of Los Angeles, Alhambra, Commerce, Montebello, Monterey Park, Rosemead, and South Pasadena.

At a Glance:

Estimated Percent Complete 41% Percent Extra Work 0.00% **Estimated Completion Date** December 2007 Details: **Bid Amount** \$2,806,400 Earnings To Date \$1,149,919 Net Extra Work To Date \$0 Earnings This Month \$189,165 Net Extra Work This Month \$0 Contract Start 12/18/06 **Duration in Working Days** 260 Contract Completion 12/27/07 Air Release and Vacuum Valve Relocation for Treated Water Pipelines
Construction Package No. 1



Installation of pipe to connect relocated air release and vacuum valves to feeder at Rosemead site



Contract No. 1642 Specifications No. 1543

Contractor: PPC Construction, Inc.

Scope:

The work consists of removal of existing subsurface vacuum and air release valves; abatement of lead, PCBs and asbestoscontaining material inside subsurface vaults; and modification and extension of piping system for installation of new Metropolitan-furnished vacuum and air release valves at aboveground locations within the cities of Brea, Covina, Diamond Bar, San Dimas, and portions of Los Angeles County.

At a Glance:

Estimated Percent Complete	28%
Percent Extra Work	0.00%
Estimated Completion Date	December 2007
Details:	
Bid Amount	\$1,195,115
Earnings To Date	\$337,776
Net Extra Work To Date	\$0
Earnings This Month	\$99,750
Net Extra Work This Month	\$0
Contract Start	1/2/07
Duration in Working Days	210
Contract Completion	10/26/07 *

Air Release and Vacuum Valve Relocation for Treated Water Pipelines
Construction Package No. 2



Coring hole in vault wall at Covina site

Contract No. 1643 Specifications No. 1544

Contractor: Abhe & Svoboda, Inc.

Scope:

The work consists of removal of existing subsurface vacuum and air release valves; abatement of lead, PCBs and asbestoscontaining material inside subsurface vaults; and modification and extension of piping system for installation of new Metropolitan-furnished vacuum and air release valves at aboveground locations within the cities of Culver City, Los Angeles, Norwalk, Santa Fe Springs, and portions of Los Angeles County.

At a Glance:

Estimated Percent Complete	82%
Percent Extra Work	0.00%
Estimated Completion Date	October 2007
Details:	
Bid Amount	\$1,678,240
Earnings To Date	\$1,372,449
Net Extra Work To Date	\$0
Earnings This Month	\$442,730
Net Extra Work This Month	\$0
Contract Start	1/2/07
Duration in Working Days	210

10/25/07

Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 3



Installation of a surge-check valve at Culver City site

Contract Completion

^{*}Time extension pending.



Contract No. 1646
Specifications No. 1547
Contractor: Pima Corp. dba Advanced Construction

Scope:

The work consists of landscape and irrigation improvements along the north and south boundaries of the plant and around Building No. 4.

F. E. Weymouth Water Treatment Plant Perimeter Improvements, Phase II



Drilling drainage sumps for tree planting

At a Glance:

Estimated Percent Complete 48% Percent Extra Work 0.00% Estimated Completion Date January 2008 Details: **Bid Amount** \$413,240 Earnings To Date \$196,966 Net Extra Work To Date \$0 Earnings This Month \$36,100 Net Extra Work This Month \$0 Contract Start 4/19/07 **Duration in Working Days** 180

1/7/08

Contract No. 1649

Specifications No. 1559

Contractor: Brutoco Engineering & Construction, Inc.

Scope:

Contract Completion

The work consists of constructing a new centralized Operations and Maintenance Building of approximately 26,566 square feet including a Weld Shop, Machine Shop, Pipe Shop, Carpentry Shop, Test Area, Parts Storage Area, Instrumentation Shop, office areas, and restrooms/locker rooms.

F. E. Weymouth Water Treatment Plant Operations and Maintenance Building



Tie-in of new 16-inch line into existing water line

At a Glance:

10% **Estimated Percent Complete** Percent Extra Work 0.00% Estimated Completion Date May 2008 Details: **Bid Amount** \$9,030,000 Earnings To Date \$915,634 Net Extra Work To Date \$0 \$295,827 Earnings This Month Net Extra Work This Month \$0 Contract Start 7/13/07 **Duration in Working Days** 220 5/26/08 Contract Completion



Contract No. 1650 Specifications No. 1549

Contractor: C.W. Roen Construction Co.

Scope:

The work consists of constructing two new contactors, installing Metropolitan-furnished ozone equipment, and making tie-ins to existing process and utility lines within the existing contactor structure.

At a Glance:

Estimated Percent Complete 10%
Percent Extra Work 0.00%
Estimated Completion Date May 2009
Details:
Bid Amount \$14,556,000

Bid Amount \$14,556,000
Earnings To Date \$1,385,000
Net Extra Work To Date \$0
Earnings This Month \$685,000
Net Extra Work This Month \$0
Contract Start 7/25/07
Duration in Working Days \$460

5/18/09

Henry J. Mills Water Treatment Plant Ozone Contactors 3 and 4



Preparations for tie-in to existing ozone outlet conduit

Contract No. 1651 Specifications No. 1589

Estimated Contract Completion

Contractor: W.A. Rasic Construction Co., Inc.

Scope:

The project consists of installing approximately 2.7 miles of large-diameter welded steel pipe. The work includes excavation; tunneling; pipe installation and welding; street improvements; construction of service connection EM-23; furnishing and installing valves and related piping; constructing manhole, blow-off, and other cast-in-place reinforced concrete vault structures; and electrical instrumentation and equipment.

At a Glance:

Estimated Percent Complete Percent Extra Work 0.00% Estimated Completion Date August 2008 Details: **Bid Amount** \$39,250,000 Earnings To Date \$1,621,995 Net Extra Work To Date \$1,295 \$956,995 Earnings This Month Net Extra Work This Month \$1,295 Contract Start 8/7/07 **Duration in Working Days** 250 8/1/08 Contract Completion

Perris Valley Pipeline, North Reach



Excavation of jacked-casing pit



Contract No. 1652 Specifications No. 1587 Contractor: Farwest Corrosion Control Company

Scope:

The project consists of removing two existing 49-foot deep anode wells with appurtenant structures and replacing with one 400-foot deep anode well and one rectifier, and removing entire solar-powered cathodic protection system at two locations along the pipeline.

At a Glance:

Estimated Percent Complete Percent Extra Work 0.00% Estimated Completion Date February 2008 Details: **Bid Amount** \$83,200 Earnings To Date \$0 Net Extra Work To Date \$0 Earnings This Month \$0 Net Extra Work This Month \$0 Contract Start 8/20/07 **Duration in Working Days** 120

0%

2/12/08

Lakeview Pipeline Cathodic Protection



Existing site conditions

Contract No. 1653 Specifications No. 1568

Abhe & Svoboda, Inc. Contractor:

Scope:

Contract Completion

The project consists of rehabilitating deteriorated slide gates and upgrading electrical equipment at the San Jacinto Diversion Structure, and replacing valves and installing a security fence at the Desert Water/Coachella Valley discharge structure located at the Whitewater River.

At a Glance:

Estimated Percent Complete 0% Percent Extra Work 0.00% Estimated Completion Date May 2009 Details: **Bid Amount** \$3,382,110 Earnings To Date \$0 Net Extra Work To Date \$0 \$0 Earnings This Month Net Extra Work This Month \$0 Contract Start 10/8/07 **Duration in Working Days** 400 5/7/09 Contract Completion

CRA Reliability Program Phase 6



Existing actuators to be replaced with new rotary-type electrical actuators



Contract No. 1654
Specifications No. 1565
Contractor: Brutoco Engineering & Construction, Inc.

Scope:

The project consists of construction of a new isolation bulkhead structure with removable spool piece, replacement of 30 feet of PCCP with 120-inch diameter welded steel pipe, and installation of 96-inch diameter sectionalizing valves in existing vault structures. The removable spool piece and 96-inch diameter valves are furnished by Metropolitan.

At a Glance:

Estimated Percent Complete	0%
Percent Extra Work	0.00%
Estimated Completion Date	September 2008
Details:	
Bid Amount	\$2,147,500
Earnings To Date	\$0
Net Extra Work To Date	\$0
Earnings This Month	\$0
Net Extra Work This Month	\$0
Contract Start	10/8/07
Duration in Working Days	230
Contract Completion	9/4/08

Rialto Pipeline Improvements Phase II



96-inch butterfly valve to be installed