THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Report

Water Resource Management

- Board Transmittal Memo Regarding Economic Stimulus Package

Summary

This memo transmits the most recent update of information on potential projects in Metropolitan's service area that match the general criteria for consideration under the 2009 American Recovery and Reinvestment Bill (Federal Stimulus Package). Staff will be presenting the information on the list, and the Board will have an opportunity for discussion of the list at the February Board Meeting.

Attachments

Attachment 1 – Draft Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within the Next Two years (2009-2010)

Attachment 2 – Draft Descriptions of Categories for the Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within the Next Two years (2009-2010)

Attachment 3 – Draft Descriptions of Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within the Next Two years (2009-2010)

Detailed Report

Background and Objective

The Federal Stimulus Package was originally intended to provide funding for infrastructure projects that could begin construction in two years, with the primary motivation of the legislation being the creation and preservation of jobs associated with the construction and operation/maintenance of public infrastructure projects. A list of potential projects in Metropolitan's service area was compiled with this objective in mind, and was grouped by similar project type. **Attachment 1** contains the listing of projects compiled to date. There are ten general groupings of projects: 1) Environmental Mitigation 2) Groundwater 3) Groundwater Recovery 4) Transmission and Distribution 5) Recycling 6) Renewable Energy 7) Seawater Desalination 8) Stormwater Capture 9) Water Storage 10) Water Quality. Descriptions and definitions of the groupings can be found in **Attachment 2**. For each of the individual projects on the list, there is detailed information on the member agency in whose service area the project resides, the current status toward construction, the intended use of the water, the estimated date by which construction could begin, the estimated total capital cost, and the estimated annual acre-foot yield. **Attachment 3** contains general descriptions of the specific projects on the list.

Development Process

The list of water infrastructure projects was compiled by Metropolitan staff over the course of the last few months. Staff conducted a three step process to compile the information detailed in the list.

- The first step was to research the past two major collaborative planning processes that were conducted with the member agencies. The two processes were the Integrated Area Study, and the Five-Year Supply Plan. In both of these planning processes, the member agencies submitted information on water-related projects, including estimated costs for construction, estimated online dates, and water supply yield. The total inventory of projects was screened, based on estimated online dates that comported with targeted construction dates for the Federal Stimulus Package.
- The second step was to verify and extend the information on potential projects. To accomplish this step, the initial list of projects from the Integrated Area Study and the Five-Year Supply Plan was distributed to the member agencies. The member agencies were asked to review the projects listed for their respective service areas, and to revise the list based on more recent knowledge and information. Many agencies provided additional information during the multiple cycles of information exchange arranged by Metropolitan staff.

Date of Report: February 4, 2009

- The third step was to estimate the number of jobs that would be created by proceeding with the construction and operation/maintenance of the projects contained in the list. Job creation was estimated in three categories: Direct Jobs, Indirect Jobs, and Induced Jobs.

Definition and Methodology of Job Creation

The primary objective of compiling the list of infrastructure projects was to estimate the number of jobs that would be created or preserved during construction and operation/maintenance of the projects. Metropolitan staff developed job estimates in three distinct categories. The definition of the categories and the basic methodology for establishing the job estimates are:

- Direct Jobs – This category encompasses jobs that are directly related to the environmental/right-of-way planning, construction, and operation/maintenance of a given project. The direct jobs were estimated using historical job figures associated with a representative cross-section of Metropolitan capital projects. These projects were used to estimate a factor of the number of direct jobs per construction dollar or anticipated annual yield. The estimates show that there is one construction job created for every $445,000 of capital investment, that environmental/right-of-way jobs are about 15 percent of construction jobs or one per $2,966,667 of capital investment, and that one operations job is created for every 2,158 AFY of project yield. These factors were then applied to the capital construction cost and project yield for each project compiled in the service area infrastructure list.
- Indirect Jobs – This category encompasses jobs that are related to the support of the construction of a given project. The most common of the indirect jobs are construction supply chain jobs, such as cement or lumber manufacturers and providers, trucking and disposal employment, repairs and maintenance of machinery, etc. The indirect jobs used the factors found in Robert Ball's article, "Employment Created by Construction Expenditures" to estimate jobs created per capital investment dollar and adjusted for inflation. The factors show that there is roughly one indirect job created for every $170,300 of capital investment.
- Induced Jobs – This category encompasses jobs that are related to retail businesses that serve and support the increased presence of jobsite personnel around a project. Examples of these retail businesses are restaurants that provide food service for workers, stores that provide uniforms and other amenities, and healthcare professionals that provide medical services for the workers. This category also includes food service and markets. The induced jobs were estimated using the ratio of induced jobs that were created from similar investments, as estimated by the Associated General Contractors of America. Induced jobs are estimated to be created at a rate of approximately one for every two direct and indirect jobs created.

This process has been ongoing and the list is continually updated based on new information by agencies and the legislative process. The list is meant to inform state and federal legislators of the types and volume of projects ready for funding. Similar lists are being created by other agencies for the same purpose.

The Metropolitan Water District of Southern California

Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within Next Two Years (2009-2010)

	Member Agency	Status	Use[1]	Date by Which Construction Could Begin	Estimated Capital Cost	Annual AF Yield[5]	Direct Jobs Created[2]	Indirect Jobs Created[3]	Induced Jobs Created[4]	Total Jobs Created
Environmental Mitigation										
Prado Area Wetlands Park	JCSD	Advanced Planning	Env	Unknown	$850,000	NA	3	5	4	**12**
Owens Lake Moat and Row	Los Angeles	Unknown	Env	Apr-10	$20,000,000	8,000	55	117	86	**259**
Santa Margarita WD Gobernadora Multipurpose Basin	MWDOC	EIR/EIS Underway	Env	Apr-09	$10,000,000	725	27	59	43	**128**
Drought Tolerant Landscape Conversions	San Diego	In Final Design	Env	Apr-09	$5,000,000	NA	13	29	21	**63**
Tijuana River Valley Mitigation Site	San Diego	In Final Design	Env	Apr-09	$5,800,000	NA	15	34	25	**74**
Groundwater Projects										
Hemet San Jacinto Recovery Program - Warren Rd.	Eastern	Fully designed	M&I	Feb-09	$4,232,300	1,268	12	25	18	**55**
Hemet San Jacinto Recovery Program - Phase 1 Wells	Eastern	Fully designed	M&I	Apr-09	$538,472	1,268	3	3	3	**10**
Hemet San Jacinto Recovery Program - Phase 1 Pipelines	Eastern	Fully designed	M&I	Jun-09	$3,154,620	1,268	9	19	14	**42**
Hemet San Jacinto Recovery Program - Phase 1 Ponds	Eastern	Fully designed	M&I	Jan-09	$3,490,912	1,268	10	20	15	**46**
City of Buena Park New Water Well	MWDOC	In Final Design	M&I	Jun-09	$3,000,000	4,842	10	18	14	**41**
City of Orange Well 27	MWDOC	EIR/EIS preparation	M&I	Jul-09	$2,000,000	4,842	7	12	10	**29**
City of Tustin Del Amo Well	MWDOC	Advanced Planning	M&I	Jul-09	$5,000,000	3,228	14	29	22	**66**
City of Tustin Tustin Avenue Well	MWDOC	EIR/EIS preparation	M&I	Jul-09	$5,000,000	3,228	14	29	22	**66**
Pasadena Groundwater Storage Program - Eastside Well Collection Pipeline	Pasadena	Fully designed	M&I	Jul-09	$4,600,000	4,000	14	27	20	**61**
Pasadena Groundwater Storage Program - Additional Wells	Pasadena	EIR/EIS preparation	M&I	Jun-10	$15,400,000	14,000	46	90	68	**205**
Upper Claremont Heights Basin Pipe Extension	Three Valleys	EIR/EIS preparation	M&I	Apr-09	$1,500,000	10,000	9	9	9	**26**
Upper Claremont Heights Basin/TVMWD Well #2	Three Valleys	In Final Design	M&I	Apr-09	$1,500,000	2,000	5	9	7	**21**
High School Well Renovation	Western	Advanced Planning	M&I	Aug-09	$975,000	600	4	6	5	**14**
Emergency Electrical Generators for Wells	Western	Advanced Planning	M&I	Jun-09	$1,300,000	NA	3	8	5	**16**
Groundwater Recovery Projects										
Hueneme Outfall	Calleguas	In Final Design	M&I	May-09	$12,000,000	NA	31	70	51	**152**
Salinity Management Pipeline Phase 1E	Calleguas	In Final Design	M&I	Jun-09	$20,000,000	NA	52	117	85	**254**
Brine Line Phase 2A	Calleguas	In Final Design	M&I	Jun-10	$15,000,000	NA	39	88	63	**190**
Perris Desalter II	Eastern	Advanced Planning	M&I	May-10	$47,358,100	5,585	125	278	202	**605**
Perris Desalter Iron/Manganese Removal Facility	Eastern	Advanced Planning	M&I	Mar-09	$17,316,146	1,679	46	102	74	**221**
Chino Basin Desalter No. 2 Expansion	Inland Empire	Fully designed	M&I	Mar-09	$24,640,000	8,800	68	145	106	**319**
Monitoring Well Drilling Contract	Los Angeles	EIR/EIS Certified	M&I	Jul-09	$7,500,000	NA	19	44	32	**95**
Tujunga Well Treatment	Los Angeles	EIR/EIS Certified	M&I	Dec-08	$6,000,000	24,000	27	35	31	**93**
San Juan Capistrano GWRP Expansion 3.0 MGD	MWDOC	EIR/EIS preparation	M&I	Jun-09	$6,000,000	3,363	17	35	26	**78**
Recovery of Pasadena Cooperative Storage	Pasadena	EIR/EIS preparation	M&I	Dec-09	$3,000,000	5,000	10	18	14	**42**
Middle Sweetwater River Desalination Pilot Project	San Diego	In Design	M&I	Feb-10	$2,000,000	1,500	6	12	9	**27**
Otay Mesa Lot 7 Well Desalination	San Diego	In Design	M&I	May-10	$8,000,000	500	22	47	34	**103**
Otay River Desalination Pilot Project	San Diego	Feasibility	M&I	Feb-10	$3,000,000	2,000	9	18	13	**40**
Rancho del Rey Well Desalination	San Diego	In Design	M&I	May-10	$8,000,000	400	22	47	34	**103**
San Dieguito Dam Seepage Recovery	San Diego	Advanced Planning	M&I	Sep-09	$1,900,000	150	6	11	8	**25**
San Pasqual Brackish Groundwater Desalination (Full Scale)	San Diego	EIR/EIS Certified	M&I	Jun-10	$39,000,000	5,000	103	229	166	**498**
Brewer Desalter Dischare-to-Waste Facility	West Basin	In Final Design	M&I	May-09	$450,000	930	3	3	3	**8**
Transmission and Distribution Projects										
Turnout Automation Project	Calleguas	In Final Design	M&I	Jun-09	$6,000,000	NA	16	35	25	**76**

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Conejo Security Cameras	Calleguas	In Final Design	M&I	Jun-09	$400,000	NA	2	2	2	**7**
Sacramento/San Joaquin Delta Two Gate Project	DWR	In Final Design	M&I	May-09	$25,000,000	NA	65	147	106	**317**
Middle River Emergency Freshwater Pathway Improvements	DWR	EIR/EIS preparation	M&I	Oct-09	$100,000,000	NA	258	587	423	**1,268**
Menifee East Tank	Eastern	Fully designed	M&I	Jun-09	$8,729,000	2,692	24	51	38	**113**
East Diamond Valley Tank	Eastern	Fully designed	M&I	Jun-09	$7,402,000	2,154	20	43	32	**95**
Western Way Booster Station	Eastern	Fully designed	M&I	Feb-09	$20,991,800	104,755	103	123	113	**339**
Felspar Lift station	JCSD	Advanced Planning	M&I	Oct-09	$3,600,000	NA	9	21	15	**46**
Florine Lift Station	JCSD	In Final Design	M&I	Aug-09	$2,900,000	NA	7	17	12	**37**
Geordie Way Water / Sewer Service	JCSD	Advanced Planning	M&I	Apr-09	$350,000	NA	1	2	1	**4**
Jurupa Rd. Sewer	JCSD	Unknown	M&I	Unknown	Unknown	Unknown	0	0	0	**0**
Plant 1 Flood Protection	JCSD	Fully designed	M&I	Jan-09	$1,200,000	NA	3	7	5	**15**
Plant 1 Effluent Storage	JCSD	In Final Design	M&I	Mar-10	$4,800,000	NA	12	28	20	**61**
Pyrite Creek Trunk Sewer Relocation	JCSD	Advanced Planning	M&I	Apr-10	$17,000,000	NA	44	100	72	**216**
Selby Street Water / Sewer Service	JCSD	Advanced Planning	M&I	May-09	$600,000	NA	2	4	3	**8**
Van Buren Bridge Sewer/Recycled Pipe	JCSD	Fully designed	M&I	Feb-09	$2,400,000	1,000	7	14	11	**32**
Indian Hills Wastewater Plant Upgrade	JCSD	Advanced Planning	M&I	Dec-10	$13,400,000	2,000	36	79	57	**171**
JCSD-Santa Anna River Water Company Septic Conversion	JCSD	Advanced Planning	M&I	Sep-10	$13,000,000	NA	34	76	55	**165**
Twin Lakes Pump Station Expansion	Las Virgenes	In Final Design	M&I	Apr-09	$2,500,000	NA	7	15	11	**32**
Relocation of LV-1 to WVF#2	Las Virgenes	Preliminary Design	M&I	Jun-10	$2,600,000	NA	7	15	11	**33**
City Trunkline	Los Angeles	EIR/EIS Certified	M&I	Jun-09	$35,000,000	NA	90	206	148	**444**
Buena Park Fire Flow and Capacity Improvements	MWDOC	In Final Design	M&I	Jan-09	$10,000,000	NA	26	59	42	**127**
La Habra Sewer Rehabilitation	MWDOC	Fully designed	M&I	Apr-09	$500,000	NA	2	3	3	**8**
La Habra Idaho Well Upgrade and MCC Booster	MWDOC	In Final Design	M&I	Jul-09	$300,000	NA	2	2	2	**6**
La Habra Water Main Replacement	MWDOC	In Final Design	M&I	Apr-09	$2,000,000	NA	5	12	8	**25**
La Palma Walker Street Pipeline Replacement	MWDOC	In Final Design	M&I	Mar-09	$3,330,000	NA	9	20	14	**42**
La Palma Walker Well Redevelopment Project	MWDOC	In Final Design	M&I	Mar-09	$770,000	NA	3	5	4	**11**
City of Orange Canon Pump Station	MWDOC	EIR/EIS preparation	M&I	Jul-09	$1,500,000	807	5	9	7	**21**
City of Orange Pipeline Renewal	MWDOC	Fully designed	M&I	May-09	$1,100,000	NA	3	6	5	**15**
City of Orange Serrano Pump Station	MWDOC	In Final Design	M&I	Jul-09	$5,000,000	1,614	14	29	22	**65**
Santa Margarita IRWD Interconnection Phase C and D	MWDOC	EIR/EIS Certified	M&I	Apr-09	$10,000,000	20,280	35	59	47	**141**
San Clemente Calle Real Pump Station Rehabilitation	MWDOC	In Design	M&I	Sep-09	$1,300,000	NA	3	8	5	**16**
San Clemente Los Mares and Presidente Turnouts	MWDOC	In Final Design	M&I	Jun-09	$780,000	NA	2	5	3	**10**
City of Tustin Simon Ranch Road Water Main Replacement	MWDOC	EIR/EIS preparation	M&I	Jul-09	$750,000	NA	3	4	4	**11**
City of Tustin Mardick Road Water Main Replacement	MWDOC	EIR/EIS preparation	M&I	Aug-09	$750,000	NA	3	4	4	**11**
City of Tustin Tustin Ave. & 17th St. Water Main Replacement	MWDOC	EIR/EIS preparation	M&I	Jul-09	$750,000	NA	3	4	4	**11**
Helix 1A Pump Station Replacement	San Diego	Fully designed	M&I	Mar-09	$775,000	NA	3	5	4	**11**
Ball Pump Station Power Upgrade	San Diego	In Design	M&I	Jul-09	$1,200,000	NA	4	7	5	**16**
Homelands Tank	San Diego	In Design	M&I	Dec-09	$2,400,000	NA	6	14	10	**31**
Calvano Tank Seismic Upgrades	San Diego	In Design	M&I	Oct-09	$300,000	NA	2	2	2	**6**
Cast-Iron Pipeline Replacement Program	San Diego	In Final Design	M&I	Mar-09	$70,000,000	NA	181	411	296	**888**
Building J - Ops, Maintenance Facilities Building and Site Prep	San Diego	Fully designed	M&I	Mar-09	$4,000,000	NA	10	23	17	**51**
Dove Hollow PRS Replacement	San Diego	Fully designed	M&I	Jan-09	$450,000	NA	2	3	2	**7**
Elfin Forest Loop Pipeline	San Diego	Fully designed	M&I	Feb-09	$1,000,000	NA	3	6	5	**14**
Firehouse Sewer Pump Station	San Diego	In Final Design	M&I	Feb-09	$1,100,000	NA	3	6	5	**15**
Miller Hydrostation Upgrade & Rehab	San Diego	In Design	M&I	Mar-09	$1,000,000	NA	3	6	5	**14**

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Upgrade and expansion of Potable WTP	San Diego	EIR/EIS Certified	M&I	Aug-09	$5,000,000	NA	13	29	21	**63**
Helix WD Levy WTP Transmission Main Project	San Diego	Fully designed	M&I	Mar-09	$22,000,000	10,000	61	129	95	**286**
Gordon Hill Pipeline Replacement	San Diego	Fully designed	M&I	Apr-09	$2,500,000	NA	6	15	11	**32**
Rodriguez Rd Phase 1	San Diego	In Final Design	M&I	Apr-09	$1,000,000	NA	3	6	4	**13**
Rodriguez Rd Phase 2	San Diego	In Final Design	M&I	Apr-09	$1,750,000	NA	5	10	7	**22**
Lake Turner Gauging Station	San Diego	In Final Design	M&I	Apr-09	$85,000	NA	0	0	0	**1**
Meadows Main Sewer Line Rpl	San Diego	In Final Design	M&I	Apr-09	$220,000	NA	1	1	1	**3**
Meadows Highline Project	San Diego	In Final Design	M&I	Apr-09	$220,000	NA	1	1	1	**3**
Circle R Drive Intertie	San Diego	In Final Design	M&I	May-09	$100,000	NA	0	1	0	**1**
Rimrock STEP System Conversion	San Diego	In Final Design	M&I	May-09	$380,000	NA	1	2	2	**5**
Water Distribution System Valve Upgrades	San Diego	In Final Design	M&I	May-09	$400,000	NA	1	2	2	**5**
High Mountain Drive Waterline	San Diego	Fully designed	M&I	May-09	$300,000	NA	1	2	1	**4**
District-wide Pressure Reducing Station & Valve Replacement	San Diego	In Design	M&I	Jun-09	$15,740,000	NA	41	92	67	**201**
Replacement of Key Pipelines Program	San Diego	In Design	M&I	Sep-09	$15,569,000	NA	40	91	66	**198**
San Dieguito Pump Station Replacement Project	San Diego	In Design	M&I	Jul-09	$4,800,000	NA	13	28	20	**61**
R.E. Badger Water Filtration Plant Improvement Project	San Diego	In Design	M&I	Sep-09	$7,696,000	NA	22	45	33	**100**
R.E. Badger WFP Improved Local Water Treatment Project	San Diego	In Design	M&I	Sep-09	$5,024,000	NA	14	30	22	**65**
R.E. Badger WFP Supply and Transmission Pipelines Project	San Diego	In Design	M&I	Sep-09	$10,700,000	NA	28	63	45	**136**
SFID Corporate Yard Expansion Project	San Diego	In Design	M&I	Nov-09	$16,000,000	NA	41	94	68	**203**
Lilac Road Loop	San Diego	Preliminary Design	M&I	Oct-09	$880,000	NA	3	5	4	**12**
Country Club Res. Cover Replacement	San Diego	Preliminary Design	M&I	Oct-09	$2,875,000	NA	9	17	13	**39**
Woods Valley Ranch WRF Upgrades	San Diego	Preliminary Design	M&I	Apr-10	$965,000	NA	3	6	4	**13**
Moosa Administration Bldg.	San Diego	Preliminary Design	M&I	Apr-10	$1,366,000	NA	4	8	6	**18**
Moosa Digester #3/Centrifuge	San Diego	Preliminary Design	M&I	Apr-10	$1,785,000	NA	9	10	10	**29**
Moosa Secondary Screen & Grit Removal	San Diego	Preliminary Design	M&I	Apr-10	$670,000	NA	3	4	3	**10**
Moosa RAS Pump Station Upgrade	San Diego	Preliminary Design	M&I	Apr-10	$1,025,000	NA	3	6	5	**14**
Welk's Skimming Plant	San Diego	Preliminary Design	M&I	Apr-10	$1,640,000	110	12	10	11	**32**
South Village Wastewater Collection Sys.	San Diego	Preliminary Design	M&I	Apr-10	$2,200,000	NA	12	13	12	**37**
Woods Valley Ranch WRF Expansion	San Diego	Preliminary Design	M&I	Apr-10	$8,000,000	100	24	47	35	**106**
VC-1 A/B	San Diego	Preliminary Design	M&I	Apr-10	$4,400,000	NA	11	26	19	**56**
Lilac Feeder Replacement (20 inch)	San Diego	Preliminary Design	M&I	Apr-10	$1,872,000	NA	6	11	8	**25**
Lake Turner Non-Potable Water Dist. Sys,.	San Diego	Preliminary Design	M&I	Apr-10	$3,590,000	400	23	21	22	**66**
Mission Trails Flow Regulatory Structure II	San Diego	In Final Design	M&I	Apr-09	$39,000,000	NA	101	229	165	**495**
Road Repairs - North Twin Oaks Valley Road	San Diego	In Final Design	M&I	Apr-09	$80,000	NA	2	0	1	**4**
Olivenhain 4 Flow Control Facility	San Diego	In Final Design	M&I	Apr-09	$800,000	NA	3	5	4	**11**
Miramar Pump Station Meter Project	San Diego	In Final Design	M&I	Apr-09	$1,000,000	NA	3	6	5	**14**
Acoustic Fiber Optic in PCCP Pipe	San Diego	In Final Design	M&I	Apr-09	$1,200,000	NA	4	7	5	**16**
Lake Murray Control Valve	San Diego	In Final Design	M&I	Apr-09	$7,000,000	NA	18	41	30	**89**
Nob Hill Modifications	San Diego	In Final Design	M&I	Apr-09	$4,000,000	NA	10	23	17	**51**
Pipeline Relining Program	San Diego	In Final Design	M&I	Apr-09	$233,900,000	NA	604	1,373	989	**2,967**
Emergency Operations Center	San Diego	In Final Design	M&I	Apr-09	$23,000,000	NA	59	135	97	**292**
Recycling Projects										
Burbank Recycled Water Distrivution Expansion Project	Burbank	EIR/EIS Certified	M&I	Apr-09	$15,000,000	961	40	88	64	**192**
VCWWD No. 1 Reclaimed Water Dist. System Expansion	Calleguas	EIR/EIS Certified	M&I	Jun-09	$8,842,500	1,179	24	52	38	**114**

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	Member Agency	Status	Use[1]	Date by Which Construction Could Begin	Estimated Capital Cost	Annual AF Yield[5]	Direct Jobs Created[2]	Indirect Jobs Created[3]	Induced Jobs Created[4]	Total Jobs Created
Moreno Valley Rec. Facility Preliminary Treatment	Eastern	Fully designed	M&I	Apr-09	$55,357,162	3,358	145	325	235	**705**
Moreno Valley Regional Water Rec. Facility Scatt Project	Eastern	Fully designed	M&I	Mar-09	$51,289,000	1,570	134	301	217	**652**
San Jacinto Regional Rec. Facility Expansion	Eastern	Fully designed	M&I	Oct-09	$177,750,000	3,906	461	1,044	752	**2,257**
San Jacinto Regional Rec. Facility Title 22 Upgrade	Eastern	Fully designed	M&I	Oct-09	$36,767,100	3,358	97	216	156	**469**
Temecula Valley Regional Rec. Facility Effluent Storage Ponds	Eastern	Fully designed	M&I	Jun-09	$21,980,780	6,716	60	129	94	**283**
Regional Recycled Water System NE Area Regional	Inland Empire	Fully designed	M&I & GWR	Mar-09	$43,427,480	5,300	115	255	185	**555**
Regional Recycled Water System NE Area Laterals	Inland Empire	Advanced Planning	M&I & GWR	Jul-09	$5,750,000	5,300	17	34	26	**77**
Regional Recycled Water System NE Area Retrofits	Inland Empire	Advanced Planning	M&I & GWR	May-09	$100,000	NA	2	1	1	**4**
Regional Recycled Water System NW Area Regional	Inland Empire	In Design	M&I	Oct-09	$38,000,000	4,975	101	223	162	**485**
Regional Recycled Water System NW Area Laterals	Inland Empire	Advanced Planning	M&I	Apr-09	$3,500,000	4,975	11	21	16	**48**
Regional Recycled Water System NW Area Retrofits	Inland Empire	Advanced Planning	M&I	May-09	$1,000,000	NA	3	6	5	**14**
Regional Recycled Water System Southern Area Regional	Inland Empire	In Design	M&I & AG	Jan-10	$16,430,000	2,850	44	96	70	**210**
Regional Recycled Water System Southern Area Laterals	Inland Empire	In Design	M&I & AG	May-09	$3,500,000	2,850	10	21	15	**46**
Regional Recycled Water System Southern Area Retrofits	Inland Empire	In Design	M&I & AG	Apr-09	$100,000	NA	2	1	1	**4**
Regional Recycled Water System Central Area Regional	Inland Empire	In Design	M&I & GWR	May-09	$13,000,000	1,500	35	76	55	**166**
Regional Recycled Water System Central Area Laterals	Inland Empire	Advanced Planning	M&I & GWR	Oct-09	$5,000,000	1,500	14	29	22	**65**
Regional Recycled Water System Central Area Retrofits	Inland Empire	Feasibility	M&I & GWR	Apr-09	$1,000,000	NA	3	6	5	**14**
Regional Recycled Water System Rubber Dam	Inland Empire	Conceptual	GWR	May-09	$500,000	NA	2	3	3	**8**
Regional Recycled Water System Monitoring Wells and Lysimeters	Inland Empire	Feasibility	GWR	Jul-09	$2,000,000	NA	5	12	8	**25**
Indian Hills Water Recycling	JCSD	Advanced Planning	M&I	Aug-09	$2,400,000	1,000	7	14	11	**32**
Stringfellow Effluent Re-use	JCSD	Advanced Planning	M&I	Jul-10	Unknown	400	0	0	0	**20**
TWRF - Westlake Community Park Extensyion	Las Virgenes	In Design	M&I	Jun-09	$150,000	175	3	1	2	**6**
TWRF - RW Extension Agoura Road at Kanan	Las Virgenes	Advanced Planning	M&I	Jun-10	$2,200,000	40	7	13	10	**29**
TWRF - Mulholland Highway Rec. Water Transmission Pipeline	Las Virgenes	Fully designed	M&I	Jun-09	$6,450,000	1,650	18	38	28	**83**
Long Beach Reclamation Project - Boeing/Douglas Park	Long Beach	EIR/EIS Certified	M&I	Jun-09	$3,375,000	450	10	20	15	**44**
Reclaimed Pipeline to Haynes	Long Beach	EIR/EIS Certified	M&I	Jan-10	$5,000,000	750	14	29	22	**65**
Wardlow Park Lateral	Long Beach	EIR/EIS Certified	M&I	Jan-10	$400,000	36	3	2	3	**8**
Water Recycling Program	Los Angeles	EIR/EIS Certified	M&I	Jan-09	$100,000,000	14,721	265	587	426	**1,279**
San Clemente Water Reclamation Project Expansion	MWDOC	EIR/EIS Certified	M&I	Feb-09	$13,990,000	1,000	37	82	60	**179**
SMWD Chiquita Reclaim. Expans. IV	MWDOC	In Final Design	M&I	Jan-10	$42,030,000	5,604	111	247	179	**537**
OCWD Groundwater Replenishment System Expansion	MWDOC	EIR/EIS Certified	GWR	Mar-09	$114,500,000	20,000	305	672	489	**1,466**
OCWD Mid-Basin Injection Pilot Facilities Project	MWDOC	EIR/EIS preparation	GWR	Mar-09	$4,000,000	NA	10	23	17	**51**
Santa Margarita Ortega Recycled Water Reservoir and Pipeline	MWDOC	EIR/EIS preparation	M&I	Mar-09	$35,000,000	15,940	98	206	152	**455**
Non-Potable Distribution Project	San Diego	In Design	M&I	Jun-10	$7,000,000	700	19	41	30	**90**
Recycled Water Connection	San Diego	In Design	M&I	Feb-09	$500,000	500	3	3	3	**9**
North District Recycled Water System	San Diego	Advanced Planning	M&I	Sep-10	$12,000,000	1,200	32	70	51	**154**
Otay Mesa Recycled Water System	San Diego	In Design	M&I	Mar-10	$16,400,000	716	43	96	70	**210**
Potable Irrigation Systems to Recycled Water Conservations	San Diego	In Design	M&I	Sep-09	$3,000,000	400	9	18	13	**40**
SFID Western Service Area Recycled Water Infrastructure Project	San Diego	In Design	M&I	Jul-09	$5,900,000	300	15	35	25	**74**
SFID Eastern Service Area Recycled Water Infrastructure Project	San Diego	In Design	M&I	Dec-09	$17,600,000	1,000	49	103	76	**228**
Northwest Quadrant Recycled Water Project - Phase II	San Diego	EIR/EIS Certified	M&I	Dec-10	$3,500,000	500	10	21	15	**46**
Pipeline and Storage for Sycamore Landfill	San Diego	EIR/EIS Certified	M&I	Dec-10	$1,700,000	159	5	10	8	**23**
City of Industry Regional Water System - Rowland	Three Valleys	Fully designed	M&I	Mar-09	$14,130,000	1,884	38	83	60	**181**
City of Industry Regional Recycled Water Project	USGVMWD	In Final Design	M&I	Jul-09	$32,500,000	3,700	86	191	138	**415**
Anza Lateral (Lateral G)	West Basin	Fully designed	M&I	Jan-09	$3,500,000	192	10	21	15	**46**

Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within Next Two Years (2009-2010)

	Member Agency	Status	Use[1]	Date by Which Construction Could Begin	Estimated Capital Cost	Annual AF Yield[5]	Direct Jobs Created[2]	Indirect Jobs Created[3]	Induced Jobs Created[4]	Total Jobs Created
ELWRF - Phase V Plant Expansion	West Basin	In Design	M&I	Sep-09	$37,000,000	5,000	98	217	158	**473**
Chevron Nitrification Plant Expansion	West Basin	Fully designed	M&I	Apr-09	$3,300,000	560	10	19	14	**43**
Palos Verdes Pipeline & Pump Station (Lateral 6B)	West Basin	In Final Design	M&I	Aug-09	$21,000,000	1,000	55	123	89	**268**
Dominguez Street Lateral (Lateral VII)	West Basin	In Final Design	M&I	Sep-09	$4,000,000	330	11	23	17	**52**
Dye House Lateral & Pump Station (Lateral V)	West Basin	In Final Design	M&I	Nov-09	$15,000,000	1,000	40	88	64	**192**
Torrance Booster Pump Station & Disinfection Facility	West Basin	In Design	M&I	Sep-09	$1,200,000	192	5	7	6	**18**
CRWRF - Plant Expansion	West Basin	In Design	M&I	Jan-10	$40,000,000	14,000	110	235	172	**517**
Los Angeles Harbor Area Pipeline	West Basin	In Design	M&I	Nov-09	$30,000,000	9,300	82	176	129	**387**
Carson Mall lateral	West Basin	In Final Design	M&I	Jun-09	$1,430,000	20	5	8	7	**20**
Mills Park Lateral (Lateral K)	West Basin	In Final Design	M&I	May-09	$150,000	11	3	1	2	**6**
CRWRF - Recycled Water and Power Backup	West Basin	In Final Design	M&I	Jul-09	$1,000,000	17,000	11	6	8	**25**
Inglewood Disinfection Station	West Basin	In Final Design	M&I	Jun-09	$400,000	1,400	3	2	3	**8**
Victoria Lateral Disinfection Station	West Basin	In Design	M&I	Aug-09	$400,000	510	3	2	3	**8**
HSEPS Pump Station and Electrical Feed Expansion	West Basin	In Design	M&I	Oct-09	$15,000,000	70,000	71	88	80	**239**
Renewable Energy										
Perris Valley Regional Rec. Facility Fuel Cell Cogeneration	Eastern	Fully designed	M&I	May-09	$10,407,690	900 KWH	27	61	44	**132**
6MW Solar Facilities at Metropolitan Sites	Metropolitan	In Final Design	M&I	Jun-10	$60,000,000	NA	155	352	254	**761**
OCWD Solar Electricity Generation Project	MWDOC	In Final Design	M&I	Mar-09	$7,000,000	NA	18	41	30	**89**
R.E. WFP Badger Hydroelectric Facility Upgrade Project	San Diego	In Design	M&I	Nov-09	$9,900,000	NA	25	58	42	**125**
Solar Panel Installation (Photo Voltaic) at SDCWA Facilities	San Diego	In Final Design	M&I	Apr-09	$22,000,000	NA	57	129	93	**279**
Seawater Desalination										
Dana Point Desalination Pilot Plant	MWDOC	EIR/EIS Certified	M&I	Sep-09	$4,800,000	NA	12	28	20	**61**
Carlsbad Desalination Conveyance Facilities	San Diego	In Design	M&I	Dec-10	$175,000,000	56,000	478	1,028	753	**2,259**
Oceanwater Desalination Demonstration Facility	West Basin	Fully Designed	M&I	Sep-09	$12,000,000	560	32	70	51	**154**
Stormwater Capture										
Big Tujunga Dam – San Fernando Basin Groundwater Project	Los Angeles	Under Construction	M&I	NA	$44,250,000	10,000	119	260	189	**568**
Pacoima Spreading Grounds Enhancement Project	Los Angeles	Unknown	GWR	Jan-00	$18,000,000	1,500	48	106	77	**230**
Sun Valey Power Line Easement Stormwater Recharge Project	Los Angeles	Unknown	GWR	Jan-00	$10,500,000	170	28	62	45	**135**
Tujunga Spreading Grounds Enhancement Project	Los Angeles	Unknown	GWR	Jan-00	$25,000,000	8,000	68	147	108	**323**
Valley Generating Station Stormwater Recharge Project	Los Angeles	Unknown	GWR	Jan-00	$30,000,000	3,500	79	176	128	**383**
Woodman Avenue Infiltration Project	Los Angeles	EIR/EIS Certified	GWR	Aug-09	$3,000,000	80	9	18	13	**40**
OCWD Burris and Lincoln Basins Reconfiguration	MWDOC	EIR/EIS Certified	M&I	Mar-09	$8,000,000	3,300	22	47	35	**104**
Water Storage										
Replacement of Five Steel Tank Reservoirs	Beverly Hills	In Final Design	M&I	Dec-09	$8,000,000	NA	21	47	34	**101**
Thousand Oaks Reservoir Replacement	Calleguas	Fully designed	M&I	Jun-09	$10,000,000	NA	26	59	42	**127**
Pond Pump Stations (SC & MWD Ponds)	Eastern	Fully designed	M&I	Aug-09	$1,756,500	700	6	10	8	**24**
San Clemente Reservoir No. 1 Expansion	MWDOC	In Design	M&I	Sep-09	$3,500,000	NA	9	21	15	**44**
Santa Margarita Upper Chiquita Reservoir	MWDOC	EIR/EIS Certified	M&I	Feb-09	$40,000,000	767	104	235	170	**509**
City of Tustin John Lyttle Reservoir	MWDOC	EIR/EIS preparation	M&I	Jul-09	$530,000	1	3	3	3	**9**
City of Tustin Rawlings Reservoir	MWDOC	EIR/EIS Certified	M&I	Jul-09	$16,500,000	18	44	97	70	**211**
City of Tustin Simon Ranch Reservoir & Booster Station	MWDOC	Advanced Planning	M&I	Jul-09	$7,500,000	4	20	44	32	**97**

Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within Next Two Years (2009-2010)

	Member Agency	Status	Use[1]	Date by Which Construction Could Begin	Estimated Capital Cost	Annual AF Yield[5]	Direct Jobs Created[2]	Indirect Jobs Created[3]	Induced Jobs Created[4]	Total Jobs Created
San Vicente Dam Raise and Carryover Storage Project	San Diego	Fully designed	M&I	Apr-09	$365,000,000	152,000	1,014	2,143	1,578	**4,735**
Water Quality										
Acceleration of Advanced Treatment at Weymouth and Mills	Metropolitan	In Final Design	M&I	Jun-10	$230,000,000	Up to 1,300,000	594	1,351	972	**2,917**
Teagarden IXP Expansion	JCSD	Advanced Planning	M&I	Oct-09	$10,200,000	31,364	41	60	50	**151**
Santa Ynez Reservoir Floating Cover Project	Los Angeles	EIR/EIS Certified	M&I	Feb-09	$22,575,000	500	59	133	96	**288**
Shade Balls Upper Stone Canyon Reservoir	Los Angeles	EIR/EIS Certified	M&I	May-09	$2,500,000	NA	6	15	11	**32**
River Supply Conduit Unit 3	Los Angeles	EIR/EIS Certified	M&I	Jan-09	$55,000,000	NA	142	323	233	**698**
River Supply Conduit Unit 4	Los Angeles	EIR/EIS Certified	M&I	Apr-09	$38,000,000	NA	98	223	161	**482**
Santa Margarita Baker Filtration Plant	MWDOC	EIR/EIS preparation	M&I	Jan-10	$54,000,000	24,990	151	317	234	**702**
Total					**$3,576,483,562**	**802,447**	**9,730**	**21,001**	**15,365**	**46,116**
										12,894

1 M&I - Municipal and Industrial, Env - Environmental, GWR - Groundwater Recharge, Ag - Agriculture

2 Total direct job estimates were developed using samples of staffing from previous Metropolitan construction projects using construction jobs, environmental and right-of-way jobs and operations jobs created.

3 The estimates for indirect job creation for the various projects was derived using the total indirect jobs created for each $1 billion investment in sewer pipeline and plant construction as shown in the article by Robert Ball. The number was divided by 2.367 to adjust for inflation and a multiplied by the ratio of project capital cost over $1 billion.

4 Induced Jobs were estimated using the ratio of induced jobs created per each direct and indirect job from similar investments.

5 This reflects total volume of water attributed to these projects

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The Metropolitan Water District of Southern California

Descriptions of Categories for Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within Next Two Years (2009-2010)

Environmental Mitigation

These projects will construct wetlands and habitat and convert water-intensive landscapes to drought tolerant plants. This serves to offsets impacts created by other projects and restore acres of habitat lost to development. It will also provide significant water savings by replacing turf with native plants.

Groundwater Projects

These projects build wells and groundwater pumping infrastructure to augment current groundwater supplies and offset imported water demands. Some programs also store imported water for later recovery which can be used in place of imported water deliveries during a shortage or emergency.

Groundwater Recovery Projects

These projects extract, treat or convey groundwater making it usable for a variety of applications by removing high levels of chemicals and/or salts. Many of the projects provide pipes and treatment facilities so that the water can be treated to drinking water standards and facilities are needed to transport brine discharge as well as the treated product. Some recovered water would substitute for imported water deliveries during a shortage or emergency.

Transmission and Distribution Projects

Most of these projects upgrade, expand, or construct new facilities and conveyance systems. These include automated meters, levee improvements, booster/lift stations, sewer services, flood control, pipe replacements, fire flow capacity improvements, flow control stations and emergency and security systems.

Recycling Projects

These projects expand existing systems or create new facilities to treat wastewater for non-potable use. This involves treated effluent to secondary and tertiary standards and other advanced treatment. This includes expanding existing systems to incorporate new customers and offset potable water demand and recharging groundwater basins.

Renewable Energy

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These projects include outfitting facilities with solar panels and a facility using internal combustion engines to offset current energy use.

Seawater Desalination

These projects treat and convey desalinated seawater for potable use.

Stormwater Capture

These projects capture stormwater runoff to increase percolation and recharge the groundwater basins. It will eliminate pollutants in the runoff that would otherwise reach the ocean.

Water Storage

These projects build tank and underground reservoirs as well as expansions of existing reservoirs to create storage for water. Some of these will be reserved to help meet the region's water supply needs in the event a major earthquake or other disaster cuts off the region's imported supplies.

Water Quality

These projects accelerate local treatment or mitigate further contamination of local water supplies.

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The Metropolitan Water District of Southern California

Descriptions of Local and Regional Water Supply Infrastructure Projects Projected to Create Jobs Within Next Two Years (2009-2010)

Note: Some descriptions are estimations based on existing projects similar to, or from the same facility as, those described below.

Environmental Mitigation

Prado Dam Area Wetlands Park– Planned efforts by the Army Corps of Engineers t raise the level of Prado Dam and increase the amount of storage provide the opportunity for JCSD to develop wetland habitats within its service area upstream of Prado Dam. The project would produce additional wetland areas , thereby providing additional wildlife habitat along with water quality benefits associated with treatment of storm water within wetlands.

Owens Lake Moat and Row – new dust control method that has been pilot tested on Owens Lake, has shows promising results, and does not require water to control the dust on the 3.5 square mile lake.

Santa Margarita Water District Gobernadora Multipurpose Basin – The preliminary design for this project is complete and ready for review. It will construct wetlands and design can be finalized for bidding in four months.

Drought Tolerant Landscape Conversions - Landscape irrigation is the single largest urban water use in California, comprising about a third of all urban water use. Turf is the most water thirsty landscape component and can often be replaced with attractive trees, shrubs, or mulched areas, providing significant water savings. The Water Authority will work with commercial or institutional properties that currently use large areas of water intensive lawns in their landscaping to convert to the use of drought tolerant plants. Water-efficient planting and irrigation practices save both water and energy.

Tijuana River Valley Mitigation Site - This habitat creation project offsets impacts created by other projects and restores 45 acres of wetlands in the Tijuana River Valley adjacent to and will become part of the thriving wetlands associated with the Tijuana estuary. The Tijuana River Estuary is one of the few salt marshes remaining in Southern California, where over 90% of wetland habitat has been lost to development. The site is an essential breeding, feeding and nesting ground and key stopover point on the Pacific Flyway for over 370 species of migratory and native birds, including six endangered species. Additionally, the project will establish recreational trails on the project site that in the future will connect to the Tijuana River Valley Recreational Park trail system.

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Groundwater Projects

Hemet San Jacinto Integrated Recharge and Recovery Program – Warren Rd. & Commonwealth P.S. Modifications/ Phase 1 Monitoring Wells/ Phase 1 Pipelines (for Wells & Recharge Ponds)/ Phase 1 Recharge Ponds - Construction of new facilities and facility upgrades to support artificial groundwater recharge and recovery in the Intake area of East Valley, Hemet/San Jacinto, CA, including upgrades to Warren and Commonwealth Boosters, construction of pipelines, and recharge ponds. These are all part of the Soboba Settlement Agreement.

City of Buena Park New Water Well – The project is designed and ready to be built. The earliest Award of Construction is June 2009.

City of Orange Well 27 – Plans and specifics are being developed for this 3,000 gpm well.

City of Tustin Del Amo Well - Project is in design for Eastern 2 wells and pipeline.

City of Tustin Tustin Avenue Well - Project needed to replace existing outdated well site at Walnut Ave.

Pasadena Groundwater Storage Program - This program involves development of capital facilities and storage of imported water in the Raymond Basin by Pasadena for later recovery and use in place of imported water deliveries during a shortage or emergency at Metropolitan's call. At this time, Pasadena has considerable concerns for potential future unknown water quality issues in the Raymond Basin, and is not prepared to proceed with this project under the currently proposed risk-sharing formula with Metropolitan. Pasadena may propose to revise the project to alleviate its concerns.

Upper Claremont Heights Basin Pipe Extension – This project is part of the Upper Claremont Heights Groundwater Storage Program and would be an extension of a recently completed imported water replenishment pipeline in the San Antonio Spreading Grounds for later recovery and use in place of firm deliveries during a shortage or emergency. The pipeline extension would allow up to an additional 10,000 AFY to be spread in the Upper Claremont Heights Basin at SASG. The project was originally contemplated as part of the existing program/agreement between Three Valleys/MWD but only one-third of the pipeline was bid and completed due to the high construction cost environment encountered in 2006 relative to the budget and grant funds then available.

Upper Claremont Heights Basin/TVMWD Well #2 - This project is part of the Upper Claremont Heights Groundwater Storage Program and would be an extension of a recently completed imported water replenishment pipeline in the San Antonio Spreading Grounds for later recovery and use in place of firm deliveries during a shortage or emergency. This project is the other necessary component of the project, in addition to the pipe extension, and is an

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additional extraction well on Three Valleys' adjacent Miramar property. Design is 90% completed for this well and CEQA would most likely be satisfied with a Negative Declaration processed in less than 90 days.

High School Well Renovation– Renovate an existing well that would require redevelopment including the addition of a sanitary seal and re-equipping. The project would provide the benefit of providing an additional source or raw water to the Roger D. Teagarden Ion Exchange Plant and provide a more diverse and reliable water supply.

Emergency Electrical Generators for Wells – Equip all JCSD well facilities with backup generators in accordance with the US GAO Critical Infrastructure Protection Report and would make the District less dependent on outside resources in the event of incidents involving technological and physical components.

Groundwater Recovery Projects

Hueneme Outfall – This is a 5,000 linear foot, 30-inch diameter ocean outfall at Port Hueneme Beach. It is a phase of the Calleguas Regional Salinity Management Project (SMP), which is a regional pipeline that will collect salty water generated by groundwater desalting facilities and excess recycled water and convey that water for re-use elsewhere. Any unused supplies will be safely discharged to the ocean, where natural salt levels are much higher. The SMP will improve water supply reliability by facilitating the development of up to 40,000 acre feet of new, local water supplies each year and expand the distribution and use of recycled water from areas with abundant supplies to areas of need. The SMP will improve water quality by moving salts out of the watershed. Salt will be removed from groundwater and the concentrate from the treatment process sent to the SMP. Tertiary treated wastewater which is too saline for discharge to local streams will be sent to the SMP during wet periods when it is not needed for irrigation.

Salinity Management Pipeline Phase 1E – This is a 10,500 linear foot, 48-inch diameter pipeline through the cities of Oxnard and Port Hueneme. It is a phase of the Calleguas Regional Salinity Management Project (SMP), which is a regional pipeline that will collect salty water generated by groundwater desalting facilities and excess recycled water and convey that water for re-use elsewhere. Any unused supplies will be safely discharged to the ocean, where natural salt levels are much higher. The SMP will improve water supply reliability by facilitating the development of up to 40,000 acre feet of new, local water supplies each year and expand the distribution and use of recycled water from areas with abundant supplies to areas of need. The SMP will improve water quality by moving salts out of the watershed. Salt will be removed from groundwater and the concentrate from the treatment process sent to the SMP. Tertiary treated wastewater which is too saline for discharge to local streams will be sent to the SMP during wet periods when it is not needed for irrigation.

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Brine Line Phase 2A - This project will construct a continuation of the 32-mile brine line groundwater discharge project along Lewis Road. The pipeline links existing and proposed groundwater desalination plants.

Perris Desalter II - Design and construction of a desalting plant to treat high TDS groundwater and produce potable water for inclusion into distribution system.

Perris Desalter Iron/Manganese Removal Facility - Design and Construction of desalter pretreatment facilities for iron and manganese removal and development of an integrated operations plan for the Menifee and Perris I desalters, desalter wells and pre-treatment facilities in Sun City, CA.

Chino Basin Desalter No. 2 Expansion – This project expands the current 10 MGD reverse osmosis/ion exchange treatment system, clearwell, piping and pumping facilities for Chino II Desalter to increase treated groundwater supplies.

Monitoring Well Drilling Contract – Drill approximately 40 new monitoring wells within the San Fernando Groundwater Basin to supplement the existing monitoring network and collect additional groundwater quality data as part of the Groundwater System Improvement Study, which is an independent study to identify, characterize and evaluate emerging water quality constituents for the San Fernando Basin.

Tujunga Well Treatment – Installation of wellhead treatment for cleanup of two wells – will result in 36,000 AF of new water supplies over a two-year period.

San Juan Capistrano Groundwater Recovery Plant Expansion – 3.0 MGD – This project is in design for eastern two wells and pipeline.

Recovery of Pasadena Cooperative Storage - This project proposes to recover 20,000AF of imported water stored in the Raymond Basin in the 1980s. The project involves use of portable ion-exchange for removal of perchlorate to allow use of Pasadena's well capacity that is currently inoperable. Recovered water would substitute for imported water deliveries during a shortage or emergency.

Middle Sweetwater River Desalination Pilot Project– Construction of a groundwater well water production facility within the Middle Sweetwater River Basin.

Otay Mesa Lot 7 Well Desalination– This project is for development of an existing groundwater well for local water supply production purposes and installation of a desalination facility to treat the ground water.

Otay River Desalination Pilot Project– Construction of an 8 mgd groundwater well water production facility within the San Diego Formation.

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Rancho del Rey Well Desalination– Construction of a groundwater well water production facility within the San Diego Formation.

San Dieguito Dam Seepage Recovery– Project includes construction of extraction wells to recover water downstream of the San Dieguito Dam. Recovered water will be used as a new raw water source for the R.E. Badger Filtration Plant or used directly for irrigation to replace potable water us.

San Pasqual Brackish Groundwater Desalination (Full Scale) - This project will construct and operate a brackish groundwater full scale desalination facility on San Pasqual Water Reclamation Plant site. It will economically produce a reliable source of potable water from the San Pasqual Groundwater Basin while minimizing brine concentrate and disposal.

Brewer Desalter Discharge-to-Waste Facility – Grounwater desalter well improvements to discharge to waste facilities for potable supply.

Transmission and Distribution Projects

Turnout Automation Project – This project will provide for automatic meter reading at Calleguas' 100 customer turnouts. Near-real-time flow information will be sent through phone or cellular services to Calleguas' SCADA system (for distribution operators), to an interactive web site (for purveyors), and to the billing system (for Calleguas' Finance Department). Calleguas operators will also be able to remotely control valves at the turnouts, and will be able to limit flow in an emergency.

Conejo Security Cameras - Install security cameras, lights, and alarms at Calleguas' Lake Bard, water filtration plant, and Conejo reservoir to protect the water supply from intrusion.

Sacramento/San Joaquin Delta Two Gate Project– This project would be implemented under the Corps of Engineers Delta Levee Stability Program along about 4 miles of the Middle River at Bacon Island. This would be done in partnership with the Department of Water Resources to improve levee stability and facilitate post-disaster freshwater pathway restoration to water export facilities in the south Delta in the event of a major flood or seismic emergency. Design is 90% finished and DNR is in draft form.

Middle River Emergency Freshwater Pathway Improvements – This project is a fisheries conservation demonstration project that would provide immediate protection to delta smelt and other sensitive aquatic species from entrainment at the SWP and CVP pumps in the south Delta. Using temporary and portable gates, it would test alternative water operation strategies to protect fish, maintain and improve water quality and improve certainty of water exports. The project would be done in partnership with the SWP and CVP contractors and the Department of Water Resources. Design has been initiated.

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Menifee East Tank – Construction of 5 million gallon recycled water tank to stabilize pressure zones and increase operational flexibility.

East Diamond Valley Tank - Construction of 4 million gallon recycled water tank to stabilize pressure zones and increase operational flexibility.

Western Way Booster Station - Design and Construction of the Western Way Booster Station at Western Way and Oleander. The booster station will take water from the new EM-24 turnout (MWD) and deliver water to the District's 1627 and 1705 pressure zones at 145 Cubic Feet / Sec.

Felspar Lift Station – Description in progress.

Florine Lift Station– Description in progress.

Geordie Way Water / Sewer Service– The proposed project will construct 1,100-1,400 feet of water and sewer pipeline to provide service to residents currently served by private well and septic systems in the Glen Avon area. Owners in this area have reported that wells have run dry during summers. The project would provide a more reliable water supply for residents in a disadvantaged community.

Jurupa Rd. Sewer– Description in progress.

Plant 1 Flood Protection– Protect Plant No. 1 from 5-year and 100-year flood events and to increase the storage capacity of the collection ponds for current and future flows and to ensure the integrity of the Santa Ana River, since there is potential that during a significant rain event, the collections ponds could overflow into the river.

Plant 1 Effluent Storage– Description in progress.

Pyrite Creek Trunk Sewer Relocation– Description in progress.

Selby Street Water / Sewer Service– Provides 1,340 feet of small diameter water pipeline and appurtenances to residents presently served by private water wells, which have experienced high nitrate levels in the past. The project will help provide residents of a disadvantaged community with more reliable, higher quality drinking water and sewer service.

Van Buren Bridge Sewer/Recycled Pipe– Description in progress.

Indian Hills Wastewater Plant Upgrade– Construct pipeline along Van Buren Blvd. to deliver treated effluent from the City of Riverside Regional Water Quality Control Plant south of District’s boundary to existing development in the Indian Hills area and adjacent water purveyor.

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JCSD-Santa Anna River Water Company Septic Conversion– Description in progress.

Twin Lakes Pump Station Expansion – The Twin Lakes subsystem serves the area north and south of the 118 Freeway and west of Topanga Canyon Blvd in the unincorporated area of Los Angeles County. Due to increased existing and future domestic and fire flow demands it is necessary to expand the Twin Lakes Pump Station and install additional suction piping. The expansion will increase the station capacity from 2,000 gpm to 2,800 gpm. The Twin Lakes Pump Station is connected to a MWD feeder but is not connected to the district's main backbone system. During MWD outages a small connection is made to a LADWP facilities but this is connection is limited in capacity. An emergency pipeline is scheduled to be constructed to allow service to the Twin Lake area from the district backbone system.

Relocation of LV-1 to WVF#2 – Relocate Las Virgenes LV-1 connection from West Valley Feeder No. 1 to West Valley Feeder No. 2. The project would require upgrading 1 mile of Las Virgenes 30" pipeline from pressure class 100 to pressure class 150. The relocation provides for additional 5 cfs to Callegaus MWD CA-1 and increase by the hydraulic grade line in Las Virgenes system.

City Trunkline – This project replaces deteriorated pipelines throughout the system.

Buena Park Fire Flow and Capacity Improvements at Various Locations – This project is designed and ready to build. Earliest Award of Construction is June 2009.

La Habra Sewer Rehabilitation – This project will construct sewer mains with plans and specifics to be finished by February 2009.

La Habra Idaho Well upgrade and MCC Booster and Generator – This project will upgrade wells, booster station and generator with plans and specifics completed by April 2009.

La Habra Water Main Replacement– This project will replace water mains with plans and specifics completed by February 2009.

La Palma Walker Street Pipeline Replacement (Ball to Crescent to Walker) – This project will be able to proceed within sixty days of authorization and can be completed in one year.

La Palma Walker Well Redevelopment Project – This project will be able to proceed within sixty days of authorization and can be completed in one year.

City of Orange Canon Pump Station – Plans and specifics are completed for the 500 gpm pump station.

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City of Orange Pipeline Renewal – Plans and specifics are being developed for these water transmission lines.

City of Orange Serrano Pump Station – Plans and specifics are being developed for this 1,000 gpm pump station.

Santa Margarita Water District IRWD Interconnection Phase C and D – Design and agreement with MWD are underway for this 28 cfs emergency interconnection capacity.

San Clemente Calle Real Pump Station Rehabilitation – This project will replace the existing pump station with upgraded pumping capacity and increased head to pump around reservoir six to reservoir 10 which will provide for more operational flexibility and redundancy within the system.

San Clemente Los Mares and Presidente Turnouts – This project involves construction of a new turnout along the joint regional water supply system local transmission main to provide improved fire flow for the southern most portions of the city.

City of Tustin Simon Ranch Road Water Main Replacement – This project is a fire protection upgrade of 1200 linear feet of water distribution main.

City of Tustin Mardick Road Water Main Replacement – This project is to replace deteriorated and undersized water lines to improve fire flows.

City of Tustin Tustin Avenue & 17th Street Water Main Replacement – this is a major distribution water line upgrade and replacement.

Helix 1A Pump Station Replacement - Replaces four existing pumps with three new pumps and rehabilitates an existing underground pump station including piping, electrical, and sitework.

Ball Pump Station Power Upgrade - Replaces existing diesel engines for the two pumps with new electrical motors. The diesel engines will not comply with new APCD regulations for emissions.

Homelands Tank - Replaces the existing 0.3 million gallon tank with a new 0.9 million gallon tank to meet current seismic requirements and improve system operation. This project also includes infrastructure improvements to existing inlet and outlet piping replacement.

Calvano Tank Seismic Upgrades - This project makes seismic upgrades to meet current seismic requirements of the tank and inlet/outlet piping.

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Cast-Iron Pipeline Replacement Program - This project is an infratructure improvements program that replaces the District's old cast-iron pipelines with new pipelines. There are approximately 55 miles of cast-iron remaining within the District that will be replaced.

Building J - Ops, Maintenance Facilities Building and Site Prep– This project is to accommodate to growth within the District's service area, and related needs for expanded operations, management, and maintenance facilities.

Dove Hollow PRS Replacement– New pressure reducing station and loop pipeline to enhance water supply and meet increase Urban/Wildland Interface fire flow requirements.

Elfin Forest Loop Pipeline– Provide for additional fire flow capacity within the northern portion of the District and will provide looping capabilities necessary for maintenance of water quality.

Firehouse Sewer Pump Station– Replacement of existing facility, utilizing existing wet well and will replace all aspects of pump system, dry well, electrical and SCADA.

Miller Hydrostation Upgrade & Rehab– Replacement of existing facility. Project will include higher efficient turbines and switch gear and will increase the ability to produce local green power and offset greenhouse gasses.

Upgrade and expansion of Potable WTP– Upgrade water treatment plant to help district meet Greenhouse Gas reduction requirements as set forth in AB32.

Helix WD Levy WTP Transmission Main Project– This project is to construct a 36-inch transmission main for a water supply link from the existing Helix WD Levy Water Treatment Plant supply source to the existing Otay WD systems.

Gordon Hill Pipeline Replacement – Construction of approximately 5,000 LF of 12 inch water main from Old Castle Road to the north end of the Welk complex to replace and relocate the existing 10 and 12 inch steel pipe. The pipeline, originally constructed in 1962, has exceeded its useful life as evidenced by numerous repairs that have been necessary. A portion of line will be relocated from back lot easement to roadway to provide better access and reduce maintenance costs.

Rodriguez Rd Phase 1 - Construction of approximately 1,520 LF of 18-inch and 335 LF of 20-inch diameter transmission main within Rodriguez Road between the Rainbow Pump Station and West Lilac Road to replace and relocate an existing 16 and 18 inch transmission main constructed in the 1950's. The easterly portion (Phase 1) is located within a proposed development that would require some grading by the developer prior to initiating construction.

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Rodriguez Rd Phase 2 - Construction of approximately 3,180 LF of 20-inch diameter transmission main within Rodriguez Road between the Rainbow Pump Station and West Lilac Road to replace and relocate an existing 16 inch transmission main constructed in the 1950's. The westerly portion (Phase 2) is located completely within existing road ROW and construction could begin once a construction contract is awarded.

Lake Turner Gauging Station – Replacement of the stream flow gauging station on Moosa Creek. These improvements would replace the original gauging station constructed in the mid 1970s and would provide and record stream flow data into Lake Turner. This information will be vital in managing the lake for use as an alternative local water supply for agricultural irrigation.

Meadows Main Sewer Line Rpl – Replacement of 300 LF of 12 inch wastewater main where it crosses Keys Creek within the Castle Creek Golf Course. The original line was constructed in 1975 and is attached to the side of a bridge that crosses the creek. Video inspection of the line revealed the deterioration of the lining and excessive corrosion damage. The line will be upsized to help accommodate the growing wastewater service area.

Meadows Highline Project - Replacement of 3,900 LF of 8 inch wastewater transmission main. The existing line, originally constructed in 1973, extends above grade, down a steep slope. The exposed PVC line has been damaged numerous times due to vandalism and inclement weather.

Circle R Drive Intertie - Minor waterline extension and interconnection of two parallel pipelines to improve overall system performance.

Rimrock STEP System Conversion - A retrofit program for 32 Septic Tank Effluent Pump (STEP) units in the Rimrock area to convert the septic tank to an emergency holding tank for raw effluent should the grinder pump fail. STEP units are property of the homeowner, but are maintained by the District. The proposed improvements would reduce maintenance costs and improve reliability.

Water Distribution System Valve Upgrades - Replacement of 20-25 valves within the District's water distribution system, the installation of two additional valves on an existing 42 inch water transmission main and installation of two 8 inch water main flex couplings, one at the each end of the West Lilac bridge transition. These improvements will improve the functionality and overall water distribution system reliability.

High Mountain Drive Waterline - Construction of 1,600 LF of 8 inch waterline in High Mountain Drive. This new construction will complete a loop of the water distribution system in the High Vista Area providing better fire flow coverage, improved system pressures and a redundant water supply to the area.

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District-wide Pressure Reducing Station & Valve Replacement– Replacement of critical Pressure Reducing Stations and Isolation Valves to enable reliability and enhanced operability.

Replacement of Key Pipelines Program– Project will replace undersized pipelines in order to enhance fire flow capabilities, install new pipelines to enable reliability, and replace pipelines at the end of their useful life.

San Dieguito Pump Station Replacement Project– Replacement of pump station that delivers an important local water supply (reducing reliance on imported water) to the R.E.Badger Water Filtration Plant. Existing pump station is undersized and at the end of its useful life.

R.E. Badger Water Filtration Plant Improvement Project– Project includes construction of facilities required to achieve regulatory compliance and enhance system reliability at the 40 mgd R.E. Badger Water Filtration Plant. Improvements include new chemical tanks, clear well improvements, solids handling facilities, and other appurtenant facilities.

R.E. Badger WFP Improved Local Water Treatment Project– Project includes construction of facilities to mitigate taste and odor issues associated with use of local source water. The project will expand the District's ability to utilize local water and reduce reliance on imported supplies.

R.E. Badger WFP Supply and Transmission Pipelines Project– Project will improve the reliability and carrying capacity of supply and transmission pipelines that convey local water supplies to the R.E. Badger Water Filtration Plant.

SFID Corporate Yard Expansion Project– Project includes the construction of new maintenance and administration facilities.

Lilac Road Loop– Construction of a Pressure Reducing Station and 2,900 linear feet of 12 inch water main in Lilac and West Lilac Roads to eliminate a dead end line and provide an additional supply source to the District's Country Club Zone. These improvements will provide additional capacity to the zone needed to take the 10 million gallon Country Club Reservoir out of service for replacement of the cover.

Country Club Res. Cover Replacement– Replacement cover for a 10 million gallon reservoir with a structural cover and asphaltic liner that was originally constructed in 1975. The cover is deteriorating to point where structural integrity and water quality could be compromised. The underdrain system is indicating minor leakage from the liner. The scope of this project is to replace the existing structural cover and liner with a floating cover and hyplon type liner along with other minor improvements to the inlet/outlet structure.

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Woods Valley Ranch WRF Upgrades– The upgrades shall consist of four different areas of the WRF. 1) Concrete Clean In Place (CIP) dip tank shall be constructed next to the existing MBR tanks to allow operators to perform CIP in a different tank and not halt operation of that half of the MBR tanks. 2) The purchase of a flat panel MBR shall be utilized to thicken the sludge in the Aerator Digester. 3) In order to conserve energy, VFD shall be purchased and installed for the Aeration Blower that can be controlled by existing Dissolved Oxygen (DO) Probes. 4) A secondary 2 mm rotary drum screen shall be purchased and installed for redundancy.

Moosa Administration Bldg. – Construction of a 65' x 35' building located at the entrance of the Lower Moosa WRF. The building will house a new control room, certified laboratory, server room, spare offices, restroom/locker room facility and maintenance area. The maintenance area will also be used to handle and repair all of the step system pump issues.

Moosa Digester #3/Centrifuge– Construction of a concrete 35' x 35' Digester structure. The Digester will be located just west of the existing Digester #2 and shall share a common wall. The Digester shall have a fine bubble diffuser system and an open top to allow easy maintenance. A new block building extension shall house a second centrifuge for thickening and dewatering redundancy along with the blowers required to operate the diffuser system. A new control panel for monitoring and controls shall also be located in the building.

Moosa Secondary Screen & Grit Removal– Construction of a grit collection system and secondary Auger Monster Screening unit. The Grit collection system shall consist of a cyclone grit collection system with pumps located in a concrete vault. The secondary Auger Monster Screenings unit shall be installed adjacent to the existing unit.

Moosa RAS Pump Station Upgrade– Upgrades to the existing RAS Pump Station shall consist of extending the existing concrete structure to the east to allow for more pumps and a staircase to be installed for easy access in and out of the RAS Pump Vault. The existing control panel shall be upgraded to the District's current Electrical and Instrumentation & Control Standards.

Welk's Skimming Plant– Construction of MBR Skimming Plant and golf course irrigation retrofit project to intercept wastewater flow for treatment and beneficial use. Recycled water produced from the project would replace the potable water that is used to supplement ground water currently being supplied to the golf course.

South Village Wastewater Collection Sys. – Construction of 22,000 LF of low pressure wastewater collection facilities consisting of 2" to 6" PVC pipe. The collection facilities would serve the South Village Wastewater Service Area and terminate at the Woods Valley Ranch Wastewater Reclamation Facility. Recycled water from the reclamation facility would be used for golf course irrigation, reducing the demand for imported potable water. Construction of the

collection system will allow property owners to develop their property to the full potential of the approved General Plan.

Woods Valley Ranch WRF Expansion– Construction of a 0.135 mgd expansion to the existing 0.075 mgd Woods Valley Ranch Water Reclamation facility to provide wastewater service to parcels within the South Village Wastewater Service Area. The existing plant was constructed to serve the Woods Valley Ranch development (280 homes and 18 hole golf course) with provisions for expansion in multiple phases to a total capacity of 0.34 mgd. Additional wastewater service in this area would allow property owners to develop their property to the full potential of the approved General Plan.

VC-1 A/B– Replacement of the District's No 1 connection to the San Diego County Water Authority's First Aqueduct and the associated metering and chlorination facilities. The existing connection, installed in the mid 1950s, has a capacity of 30 cfs and is located in a flood prone area. The connection facility would be relocated to an area outside of the Keys Creek flood zone.

Lilac Feeder Replacement (20 inch) – Replacement of 8,500 linear feet of 14 inch water main. The Lilac Feeder line takes water from the District's No. 1 aqueduct connection to Lilac Reservoir and Pump Station. The tar wrapped steel line was originally constructed in 1957 and has required extensive repairs in the recent past. The line will be upside to 20 inch to provide additional capacity to the service zone, reservoir and pump station.

Lake Turner Non-Potable Water Dist. Sys,. – Construction of non-potable water distribution system that utilizes groundwater and storm water runoff to provide an alternative local source of water for agriculture irrigation in lieu of imported water. Improvements would consist of groundwater well rehabilitation, pump station upgrades and construction of a forebay reservoir and 18,000 linear feet of 8 inch water main.

Mission Trails Flow Regulatory Structure II - This project that will maximize the Water Authority's ability to convey raw water from the north to water treatment facilities in central and southern San Diego County. Capacity limitations in raw water pipelines through this portion of the Water Authority's aqueduct system limits the ability of water treatment facilities to keep up with demand for treated water during periods of high demand (i.e. summer). This project consists of building a 12 million gallon underground concrete tank and appurtenant facilities for the untreated water system that will eliminate this bottleneck and improve treated water supply reliability in the region. A small building will provide access, ventilation and instrumentation.

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Road Repairs - North Twin Oaks Valley Road - North Twin Oaks Valley Road – a winding two-lane country road -- is the only means of access to the Water Authority's Twin Oaks Valley Water Treatment Plant – a 100 million-gallon-per-day treatment plant serving the region's 3 million residents. The condition of the road needs to be improved to help facilitate ingress to, and egress from the treatment plant. The work consists of repairing distressed pavement at identified locations, sealing cracks, and restriping lane markings.

Olivenhain 4 Flow Control Facility - The project will replace a temporary flow control facility with a permanent one in order to improve the reliability of raw water supplied to the Olivenhain Municipal Water District. The project will construct a new valve, underground concrete vault, and associated piping from the aqueduct to a permanent above ground metering facility in a concrete building.

Miramar Pump Station Meter Project - The project consists of a 48-inch diameter, venturi flowmeter installation and associated concrete vault with power, lighting, ventilation, access control, security, and instrumentation. The system will provide metering capabilities for flows from the Miramar Pump Station.

Acoustic Fiber Optic in PCCP Pipe (portions of P3 & P4) from Miramar Hill to SD#5 -Prestressed Concrete Cylinder Pipe – PCCP – was installed in the Water Authority's aqueduct system in the 1960s and 1970s. PCCP are more susceptible to failure than the steel pipe now used in the industry. This technology gives the Water Authority the ability to monitor pipeline conditions in real time and to detect pipeline deterioration before they can cause a major failure. This project calls for the installation of approximately 3.4 miles of acoustic fiber optic cable in Pipelines 3 and 4 from Miramar Hill to the City of San Diego's Miramar Water Treatment Plant. The technology will provide a forewarning of the pipeline losing its integrity and ability to carry water.

Lake Murray Control Valve - As a result of emergency re-configurations made in response to a 2006 pipeline break, a new control valve is needed on the pipeline which conveys untreated water through Mission Trails Regional Park and across Lake Murray Park. This valve is required to utilize the full operational capacity of the proposed Mission Trails Tunnel and Mission Trails Flow Balancing Structure and provide better flow balancing to member agencies' downstream treatment plants. Additionally, installation of this valve will eliminate a vent, which reduces risks of potential spills. The project will provide flow and pressure control for a portion of the untreated water conveyance system. Work includes construction of new control valves, flow meters, isolation valves, instrumentation and control, site power, and appurtenant equipment housed in a below grade, reinforced concrete structure. The project includes new pipelines to connect the structure to existing aqueduct pipelines.

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Nob Hill Modifications - There is a risk of damage to the adjacent residents when water spills from the Nob Hill vent. The Nob Hill Modifications project will eliminate that risk and mitigate excessive transient pressure resulting from sudden and unintended flow changes within the untreated water conveyance system. Work includes demolition of existing valves and structures, and construction of new air release-air vacuum valves, reinforced concrete valve vaults, drainage facilities, and reinforced concrete storm drain pipe.

Pipeline Relining Program - The Water Authority developed a pipeline relining program to reline segments of its PCCP system so that its integrity is assured and its useful life extended. This project will reline 22.6 miles of treated and untreated PCCP pipelines in different parts of San Diego County.

Emergency Operations Center - The Water Authority's existing operations center is currently too small to easily accommodate an incident command center comparable for a water agency of our size and system complexity. Project includes a second story addition to the Water Authority's Escondido Operations Center building, which will house the Primary Control Room, Emergency Operations Center, and supporting staff offices. The project includes a small annex building, SCADA system (Supervisory Control and Data Acquisition), and American with Disabilities Act upgrades.

Recycling Projects

Burbank Recycled Water Distribution Expansion Project - The City of Burbank's existing recycled water system delivered approximately 1,000 acre-feet (AF) to customers within the city limits in 2005, and total current usage is now estimated at 2,200 AF. To better utilize water resources, the City plans to expand its recycled water distribution system to several locations throughout the city to increase recycled water distributions by nearly 45% (961 AF/Y) to approximately 3,200 AF. Expanding the City's recycled water distribution system is the best and most efficient long-term potable water conservation measure the City can implement.

VCWWD No. 1 Reclaimed Water Dist. System Expansion – This project will expand the reclaimed water distribution system to provide reclaimed water for agricultural and/or additional landscape irrigation. The proposed project includes construction of a single reservoir and pipelines to distribute reclaimed water in lieu of potable water, where possible.

Moreno Valley Regional Water Reclamation Facility Preliminary Treatment & Acid Phase Anaerobic Digestion - Design & construct additional facilities to expand the plant's capacity to 15.7 MGD.

Moreno Valley Regional Water Reclamation Facility Scatt Project - Design and construction of Secondary Clarifier and Tertiary Treatment (SCATT) at the Moreno Valley Regional Water Reclamation Facility.

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San Jacinto Valley Regional Water Reclamation Facility Expansion for Enhanced Biological Nutrient Removal to 14 MGD - Design and construct additional headworks, primary, secondary, solid handling, effluent station & stand by generator & boiler facility to provide 14 MGD total capacity.

San Jacinto Valley Regional Water Reclamation Facility Title 22 Upgrade for Tertiary Expansion - Construction of 14 MGD tertiary treatment process at the San Jacinto Valley Regional Water Reclamation Facility.

Temecula Valley Regional Water Reclamation Facility Effluent Storage Ponds Expansion - The Temecula Valley Regional Water Reclamation Facility (TVRWRF) requires additional capacity at the Secondary Effluent ponds, Tertiary Effluent ponds, and Emergency storage ponds for ease of operation, regulatory compliance, and reliability.

Regional Recycled Water System NE Area Regional – This project consists of transmission pipelines, reservoirs and pump stations for the NE regional recycled water system.

Regional Recycled Water System NE Area Laterals - This project consists of distribution pipes for the NE regional recycled water system.

Regional Recycled Water System NE Area Retrofits – This project consists of on-site plumbing retrofits for Fontana, CVWD and Ontario.

Regional Recycled Water System NW Area Regional - This project consists of transmission pipelines, reservoirs and pump stations for the NW regional recycled water system.

Regional Recycled Water System NW Area Laterals – This project consists of distribution pipes for Ontario and Upland.

Regional Recycled Water System NW Area Retrofits - This project consists of on-site plumbing retrofits for Upland and Ontario.

Regional Recycled Water System Southern Area Regional - This project consists of transmission pipelines and reservoirs for the southern regional recycled water system.

Regional Recycled Water System Southern Area Laterals - This project consists of distribution pipes for Vellano.

Regional Recycled Water System Southern Area Retrofits - This project consists of on-site plumbing retrofits for city of Chino.

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Regional Recycled Water System Central Area Regional – This project consists of transmission pipelines for Wineville and a segment of Marley.

Regional Recycled Water System Central Area Laterals - This project consists of segments one and two of distribution pipes for Wineville.

Regional Recycled Water System Central Area Retrofits - This project consists of on-site plumbing retrofits for Wineville and Marley.

Regional Recycled Water System Rubber Dam – This project constructs a dam for groundwater recharge of Jurupa Basin.

Regional Recycled Water System Monitoring Wells and Lysimeters – This project at Lower Day is for wells and lysimeters for groundwater recharge.

Indian Hills Water Recycling– Description in progress.

Stringfellow Effluent Re-use– Description in progress.

TWRF- Westlake Community Park Extension - Extension of a 12-inch recycled water pipeline 1,000 feet west along Agoura Road from Lindero Canyon Blvd to provide recycled water service to the City of Westlake Village Community Park. Demand is estimated at 175 AF/year.

TWRF - RW Extension Agoura Road at Kanan – The customers that are included in this demand are future private and commercial users along Agoura Road between Ladyface Circle and Lewis Road. Pipeline for this project is estimated at 9,250 feet in length, and would connect to existing recycled water pipelines on both the east and west sides of the extension.

TWRF- Mulholland Highway Recycled Water Transmission Pipeline - This project involves the design and construction of a 9,000 lin. ft., 24" recycled water (REW) welded steel pipeline from Mulholland Highway to the Tapia Water Reclamation Facility (TWRF). The pipe will be concrete mortar coated and lined. It will be parallel to the District's existing 18" (REW) pipeline that was constructed in the early 70's. To prolong the service life of this new 24" REW pipeline, an optimally-designed passive cathodic protection (CP) system will be installed. The alignment of this main is through State of California Park Land, through Camp David Gonzales, a L.A. County facility, and along and on Las Virgenes Road, until it reaches the intersection with Mulholland Hwy. Eventually the recycled water will be delivered to the Recycled Water Pump Station (RWPS) at District HQ. From RWPS, recycled water is distributed to areas within the District's East and West recycled water systems. This project was also analyzed in Section 16.2.2 of the 2005 TEA (Tapia Effluent Alternatives) Study that was commissioned to find alternatives to Malibu Creek discharge.

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Long Beach Reclamation Project – Boeing/Douglas Park– This project will construct 5,000 feet of 12- inch pipe. The new pipe will serve Douglas Park development, eliminating bottleneck in the reclaimed system and increasing downstream pressure.

Reclaimed Pipeline to Haynes – This project will construct 7,500 feet of 16-inch pipe to Haynes to supply reclaimed water to repower its units 5 and 6.

Wardlow Park Lateral - This project will construct a lateral crossing flood control channel to supply reclaimed water to Wardlow Park.

Water Recycling Program – This project is to construct recycling facilities, to assist the city of Long Beach to achieve its goal of meeting 50,000 AF of future demand through the use of recycling water and to further the use of recycled water in place of potable water.

San Clemente Water Reclamation Project Expansion – This project proposes to supply approximately 1,000 acre-feet per year of reclaimed water for park, golf course, and greenbelt irrigation. It consists of expansion of the existing San Clemente Water Reclamation Plant and the construction of a new distribution system, which includes four pump stations, four reservoirs, and approximately ten miles of pipeline.

SMWD Chiquita Reclaimed Water System Expansion IV – This project expands and upgrades the current production of secondary effluent suitable for ocean discharge and includes solids digestion and dewatering facilities with a rated capacity of 6.0 mgd. The project will provide tertiary treatment for 5.0 mgd. The existing processes include influent pumping, grit removal, primary clarifiers, trickling filters/solids contact, anaerobic digestion and belt filter presses for dewatering.

OCWD Groundwater Replenishment System Expansion – this project creates permanent jobs for on-going operation and maintenance. It will reduce reliance on imported water by expanding local water supply through water recycling and will expand capacity of current plant by an additional 15 to 20 million gallons per day.

OCWD Mid-Basin Injection Pilot Facilities Project- this project creates permanent jobs for on-going operation and maintenance and will determine the feasibility, benefits and costs of constructing a full-scale project that would inject GWR System product water directly into the principal aquifer in an area of high volume groundwater pumping. The project will help OCWD meet the expected increase in regional water demand through expansion of local water supplies.

Santa Margarita Ortega Recycled Water Reservoir and Pipeline – This project will provide 2,000 AFY of seasonal storage in addition to 22 cfs of production and has included in the program a Habitat Conservation Plan, although site specific plans are not completed yet.

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Non-Potable Distribution Project - Project will increase local supply by approximately 700 afy by expanding the use of current non-potable sources.

Recycled Water Connection - A new recycled water connection to City of San Diego will allow for the offset of imported water supplies and utilization of local resources.

North District Recycled Water System - Construction of recycled water system within the Middle Sweetwater River Basin.

Otay Mesa Recycled Water System - Construct the recycled water supply link to the existing system within the Otay Mesa area to be supplied by the SBWRP.

Potable Irrigation Systems to Recycled Water Conservations - This project is to convert multi family dwelling irrigation systems currently using treated imported water for landscape irrigation to recycled water use within the existing irrigation systems.

SFID Western Service Area Recycled Water Infrastructure Project - Project includes construction of recycled water distribution system pipelines and pumping facilities to connect new recycled water customers.

SFID Eastern Service Area Recycled Water Infrastructure Project - Project includes construction of recycled water distribution and treatment facilities to serve new recycled water customers.

Northwest Quadrant Recycled Water Project - Phase II – This project provides a water distribution system to replace existing potable water irrigation demands at existing schools, parks and executive gold course. This may require acquisition of easements and planning was included in the Northwest Quadrant Phase I.

Pipeline and Storage for Sycamore Landfill – Padre Dam currently supplies recycled water to the land fill and this project is to meet future needs by providing 159 AFY of storage. The landfill is currently in the later stages of the EIR process and further study is needed to size facilities.

City of Industry Regional Water System – Rowland – This project expands the delivery capacity of Rowland Water district's existing recycled water system and will be used for irrigation and industrial purposes. Rowland's portion of the Regional Project from San Jose Creek will be delivered through Industry's regional supply transmission facilities.

City of Industry Regional Recycled Water Project – This project allow Upper district to construct its own recycled water distribution system and expands the existing recycled water delivery capacity from San Jose Creek WRP. The project water will be used for irrigation and commercial, institutional and industrial purposes.

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Anza Lateral Phase 1 – The project entails constructing 14,424 linear feet of 8-inch, 6-inch and 4-inch pipeline in Phase I and 8,287 linear fe3et of 6-inch and 4-inch pipeline in Phase II in the city of Torance. Commitments to purchase the water have been received from all identified customers. The project is broken into two phases due to financial constraints.

ELWRF - Phase V Plant Expansion – Expand high-purity recycled water supply to West Coast Basin Barrier, Chevron Refinery and El Segundo Power Plant.

Chevron Nitrification Plant Expansion – Expand recycled water supply to Chevron Refinery for increased use in cooling towers.

Palos Verdes Pipeline & Pump Station (Lateral 6B) – Expand major recycled water conveyance and pumping system to serve City of Torrance and Palos Verdes Peninsula cities.

Dominguez Street Lateral (Lateral VII) – Expand recycle dwater conveyance system to serve Texollini with industrial use recycled water.

Dye House Lateral & Pump Station (Lateral V) – Expand recycled water conveyance system to serve Dominguez Tech Center and various industrial users.

Torrance Booster Pump Station & Disinfection Facility – Implement new recycled water booster pump station to provide adequate water supply pressure and quality to various customers.

CRWRF - Plant Expansion – Expand high-purity recycled water cooling tower and boiler feed supply to BP Refinery from the Carson Regional Water Recycling Facility.

Los Angeles Harbor Area Pipeline – Expand recycled water conveyance system to serve LADWP customers with nitrified recycled water for industrial uses.

Carson Mall lateral – Expand recycled water distribution system to customers within the City of Carson.

Mills Park Lateral (Lateral K) – Expand recycled water distribution system to serve customers within the City of Carson.

CRWRF - Recycled Water and Power Backup – Implement backup water and power facilities to increase water supply reliability to the Carson Regional Water Recycling Facility.

Inglewood Disinfection Station – Implement permanent disinfection station to maintain recycled water quality to District customers.

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Victoria Lateral Disinfection Station – Implement permanent disinfection station to maintain recycled water quality to District customers.

HSEPS Pump Station and Electrical Feed Expansion – expand Hyperion Secondary Effluent Pump Station to serve future recycled water demands and provide second electrical feed supply for reliability.

Renewable Energy

Perris Valley Regional Water Reclamation Facility Fuel Cell Cogeneration - The solids handling facilities will be completed by 4/2010. As originally designed, the cogeneration facility consisted of two 560 KW internal combustion engines (ICEs).

6MW Solar Facilities at Metropolitan Sites – The installation of photo voltaic solar systems at various District treatment plants.

OCWD Solar Energy Generation Project – This project creates permanent jobs for on-going operation and maintenance for a PV-electric power generation facility for the Orange County Water District. This project will involve installing a 750 kW PV array to help meet the significant electricity operating demands of the GWR System. Federal funds will help the district complete the planning and installation in a more timely fashion, allowing energy conservation and greenhouse gas reduction to begin several years earlier than anticipated.

R.E. WFP Badger Hydroelectric Facility Upgrade Project – Description in progress.

Solar Panel Installation (Photo Voltaic) at SDCWA Facilities - The installation of photo voltaic solar systems at Kearny Mesa Headquarters and Twin Oaks Treatment Plant would enable the Water Authority to generate approximately three million kwh of alternating current per year, contributing to the state goal of 20% of energy from solar by 2010 and 30% by 2020. Typically 30 percent of power can be provided through solar installation. This local source of energy would reduce transmission constraints on the grid during heat events. In addition, by generating solar power we also reduce the need to build and operate new power plants, resulting in a reduction of greenhouse gas emissions. Installation of these systems would help the Water Authority in compliance with AB 32, the Global Warming Solutions Act of 2006. The act states that California greenhouse gas emissions will be reduced to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050.

Seawater Desalination

Dana Point Desalination Pilot Plant - Pumping test and pilot plant work for the Dana Point Project using slant well intake system. This is a pilot plant and testing for the full 15 mgd plant.

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Carlsbad Desalination Conveyance Facilities - The Carlsbad (Encina) Seawater Desalination Project will generate 56,000 acre-feet of potable supply distributed regionally among 9 local retail agencies in San Diego County. The project will offset 56,000 of supplies imported from Northern California, improve local and regional reliability in response to climate change and supply disruptions due to earthquakes. The project will be net-carbon neutral.

Oceanwater Desalination Demonstration Facility – Construct demonstration-level ocean desalination facility to test full-scale operation.

Stormwater Capture

Big Tujunga Dam – San Fernando Basin Groundwater Enhancement Project - Big Tujunga Dam was built in 1931 for flood control and water conservation. Because the structure does not meet seismic and spillway capacity standards, the State of California's Division of Safety of Dams has restricted the dam's capacity by 75%, from the original 6,000 acre-feet down to 1,500 acre-feet. The project will retrofit the dam to meet the State's standards allowing full use of the dam's storage capacity. There are not currently enough funds to finish the project and it will be shelved if these funds are not received.

Pacoima Spreading Grounds Enhancement Project – the project proposes to increase the capacity and efficiency of the 140-acre Pacoima Spreading Grounds by deepening and enlarging the spreading basins to retain more stormwater, improving and increasing the percolation rate, replacing the radial gate with a rubber dam, relocating the intake structure, and adding telemetry and automation so that the spreading grounds can be remotely operated. Compatible uses of the property may also include open space enhancements such as connectivity pathways, passive recreation and educational opportunities.

Sun Valley Power Line Easement Stormwater Recharge Project – This project entails the capture, treatment and infiltration of stormwater runoff from streets in the San Fernando Valley utilizing LADWP's Powerline easement in the lower Sun Valley Watershed. Local stormwater runoff will be diverted into several small treatment facilities to remove debris such as trash, suspended sediments and pollutants associated with solids such as heavy metals. After treatment, water will enter infiltration basins where the treated stormwater runoff will recharge the groundwater basin. Compatible uses of the property may also include open space and recreational enhancements.

Tujunga Spreading Grounds Enhancement Project – To better utilize local resources, this project proposes to increase the capacity and efficiency of the 140-acre Tujunga Spreading Grounds by deepening and enlarging the spreading basins to retain more stormwater, improving and increasing the capacity of the intake structure and adding telemetry and automation so that the spreading grounds can be remotely operated. Without impacting spreading operations, open space enhancements such as connectivity pathways, passive recreation and educational opportunities will be developed.

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Valley Generating Station Stormwater Recharge Project – the project entails three phases: Phase I is to capture and infiltrate the stormwater that falls within the 160-acre property owned by LADWP; Phase II is to capture and infiltrate stormwater runoff from Sheldon street and San Fernando Road; Phase III is to divert water from the Tujunga Wash Channel onto the property for infiltration.

Woodman Avenue Infiltration Project – This project is constructing an infiltration swale to collect stormwater runoff along the portion of Woodman Avenue. It will recharge the San Fernando Valley groundwater basin and will eliminate pollutants in the runoff that would otherwise reach the Los Angeles River.

OCWD Burris and Lincoln Basins Reconfiguration - Project creates permanent jobs for operation and maintenance. Project will increase percolation of surface water into the OC groundwater basin by 3300 afy. This will increase groundwater recharge and the supply of local drinking water.

Water Storage

Replacement of Five Steel Reservoirs - The City of Beverly Hills built in the 1950's and 60's a series of steel tank reservoirs to serve the hillside areas of the City. These tanks are not only aging but do not meet current seismic standards. Therefore, the City has decided instead of retrofitting the tanks to replace them to provide greater reliability to the community not only for daily potable use, but also fire suppression. Each tank is sized for approximately a million gallons of water. This project is scheduled to begin construction in 2009 and will employee approximately 10 people. The operations staff already exists to operate these tanks.

Thousand Oaks Reservoir Replacement – This project proposes to demolish the existing Westlake Reservoir in Thousand Oaks and construct a five million gallon underground concrete replacement reservoir.

Pond Pump Stations (SC & MWD Ponds) - Construct pump station to allow storage of recycled water, to be used during peak periods to increase reliability and operational flexibility.

San Clemente Reservoir No. 1 Expansion – This project will increase the volume of the reservoir to one million gallons in order to increase operational and emergency storage for the city's zone one service area and was identified in the 2006 water master plan as necessary improvements.

Santa Margarita Water District Upper Chiquita Reservoir – This project created 767 AF of storage and 50 cfs of emergency supply. Plans and specifics are being finalized for bidding in December or early January 2010.

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City of Tustin John Lyttle Reservoir – This project will evaluate 0.17 MG tank condition, provide improvements to meet safety standards, replace site access stairway and construct a roadway with grading & drainage improvements.

City of Tustin Rawlings Reservoir – This project will design and construct two new 3.0 MG reservoirs. Project design phase is 95% complete.

City of Tustin Simon Ranch Reservoir and Booster Station - Seismic replacement of an old 1.2 MG in-ground covered reservoir and dilapidated 1,000gpm booster station.

San Vicente Dam Raise and Carryover Storage Project - This project is the largest dam-raise project in the United States and, when completed, will be the largest roller-compacted concrete dam raise project in the world. The San Vicente Dam will be raised by 117 feet to more than double the reservoir's water storage capacity -- from 90,000 acre-feet to 242,000 acre-feet. Of the 152,000 acre-feet of additional storage created by the project, 52,000 acre-feet will be reserved to help meet the region's water supply needs in the event a major earthquake or other disaster cuts off the region's imported supplies.

Regional Water Treatment

Acceleration of Advanced Treatment at Weymouth and Mills Plants – Description in progress.

Teagarden IXP Expansion– Upgrade the existing Teagarden Ion Exchange Plant from 8 mgd to 15 mgd in order to remove nitrate and improve potable water quality from seven groundwater wells to provide a safer and more reliable water supply and decrease the amount of high nitrate groundwater from the Chino Basin from flowing into the Santa Ana River.

Santa Ynez Reservoir Floating Cover Project – This project is part of DADWP's plan to comply with the EPA's Long Term 2 enhanced Surface Water Treatment Rule. Covering the reservoir helps the Department comply with this rule.

Shade Balls Upper Stone Canyon Reservoir – This project places 4" diameter plastic balls to cover the entire reservoir surface. The benefits are multi-fold in that the balls shield the water from sunlight which causes disinfection byproduct formation, reduces algal formation and saves water by preventing evaporation.

River Supply Conduits 3 & 4 – These projects are being constructed to accommodate the removal of Silverlake Reservoir from service. This is being done to meet both SWTR and DBP Stage 2 requirements.

Santa Margarita Baker Filtration Plant – This project has begun design on a 34.5 cfs capacity water treatment plant.