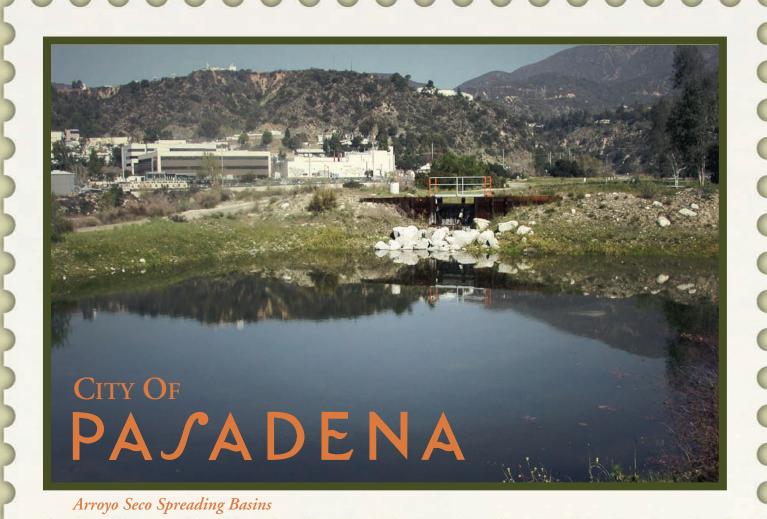
### WATER SYSTEM





## FY 2011 - 2015 Capital Improvement Program Water System

Priority	Description	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
1	Fire Protection System Improvements (1019)	23,810,000	19,810,000	0	1,400,000	700,000	300,000	1,600,000
2	Meters and Services (1002)	22,894,000	20,344,000	100,000	600,000	600,000	600,000	650,000
3	Distribution Mains (1001)	49,354,000	30,154,000	5,000,000	3,100,000	1,400,000	6,400,000	3,300,000
4	Miscellaneous Water System Improvements (1006)	6,944,000	5,244,000	300,000	300,000	350,000	350,000	400,000
5	Upgrade Well Pumps, Booster Pumps, Switchgears and Meters (1020)	8,964,000	5,564,000	0	1,125,000	1,025,000	750,000	500,000
6	Well Collector Pipelines (1044)	9,333,555	4,733,555	0	0	4,600,000	0	0
7	Arroyo Spreading Basins and Intake Structures (1040)	1,400,000	700,000	0	300,000	400,000	0	0
8	Devil's Gate Tunnels (1043)	1,150,000	750,000	0	400,000	0	0	0
9	Management Information Systems - Water and Power Department (1025)	2,020,000	1,470,000	0	150,000	150,000	150,000	100,000
10	Water Project Work Management System - Water and Power Department (1045)	600,000	450,000	0	150,000	0	0	0
11	Reclaimed Water (1013)	43,350,000	11,350,000	12,000,000	6,000,000	6,000,000	1,000,000	7,000,000
12	Convert Chlorination Stations to Chloramines (1031)	3,099,973	2,149,973	0	0	950,000	0	0
13	Reservoir Improvements (1037)	8,809,000	5,159,000	0	1,575,000	875,000	1,200,000	0
14	Interactive Voice Response System (IVR) (1016)	528,399	415,899	0	37,500	25,000	25,000	25,000
15	Field Service Automation (1012)	585,749	365,749	0	55,000	55,000	55,000	55,000
16	Geographic Information System - Water and Power Department (1009)	4,682,906	3,982,906	100,000	200,000	200,000	100,000	100,000
17	Water and Power Warehouse Modernization (1056)	4,734,940	3,919,940	0	815,000	0	0	0
18	Customer Information System (1011)	2,947,485	652,485	1,000,000	1,250,000	15,000	15,000	15,000
19	Sunset Perchlorate Treatment Plant (1062)	3,300,000	3,050,000	250,000	0	0	0	0
20	Monk Hill Perchlorate Treatment Plant (1063)	15,120,000	5,950,000	0	2,120,000	4,100,000	1,400,000	1,550,000
21	Customer Driven Meters and Services (1003)	10,640,000	4,640,000	1,000,000	1,100,000	1,200,000	1,300,000	1,400,000
22	Radio Equipment Replacement (1065)	1,195,000	700,000	420,000	50,000	25,000	0	0
23	New Well Projects (Conjunctive Use) (1021)	17,950,000	4,450,000	0	0	1,500,000	6,000,000	6,000,000

## FY 2011 - 2015 Capital Improvement Program Water System

Priorit	y Description	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
24	Eaton Canyon Road Repair (1067)	1,481,458	1,481,458	0	0	0	0	0
25	Water Integrated Resource Plan and Urban Water Management Plan (1069)	560,000	372,000	188,000	0	0	0	0
To	otal	245,454,465	137,858,965	20,358,000	20,727,500	24,170,000	19,645,000	22,695,000

#### FY 2011 - 2015 Capital Improvement Program Water System

#### Fire Protection System Improvements

1019

Priority 1	Project No. Description 1019 Fire Protection System Improvements	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Funding	16,160,000	12,160,000	0	1,400,000	700,000	300,000	1,600,000
	Fire Protection Surcharge	100,000	100,000	0	0	0	0	0
	Water Fund	7,550,000	7,550,000	0	0	0	0	0
	Total	23,810,000	19,810,000	0	1,400,000	700,000	300,000	1,600,000

#### **Fire Protection System Improvements**



**DESCRIPTION:** This project provides for the upgrade of the water distribution system, as necessary, to sustain current fire protection requirements. Typical projects include new mains and new fire hydrants.

**JUSTIFICATION:** This project will ensure adequate water for fire protection in accordance with public safety requirements.

**SCHEDULE:** The goal is to install three and a half miles of mains through projects #1001 and # 1019.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to ensure adequate water for fire protection.

**HISTORY:** This is an ongoing project that was created before 1980.

# FY 2011 - 2015 Capital Improvement Program Water System Meters and Services 1002

Priority Project No. 2 1002	<b>Description</b> Meters and Services	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
Aid to Cons	truction (Water)	5,270,600	5,270,600	0	0	0	0	0
CIC Fundin	g	13,769,100	13,769,100	0	0	0	0	0
Water Bond		2,550,000	0	100,000	600,000	600,000	600,000	650,000
Water Fund		1,304,300	1,304,300	0	0	0	0	0
Total		22,894,000	20,344,000	100,000	600,000	600,000	600,000	650,000



**DESCRIPTION:** This project provides for the installation of new water meters and services as required by customers throughout the City. It also includes the replacement of worn-out meters and services as needed. The goal is to replace all old water meters with new automatic meter readers (AMR) in five years and to replace additional meters on an as-needed basis. AMR meters will provide an efficient method of collection meter data for billing.

**JUSTIFICATION:** New meters and services are necessary to meet customer demand and to replace old facilities in order to maintain acceptable service levels to existing customers.

**SCHEDULE:** Approximately 2,500 water meters will be replaced in FY 2011. This will complete approximately 90% of the meter replacement program.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to achieve a high level of maintenance for existing facilities.

**HISTORY:** This is an ongoing project that was created before 1980 and receives funding each year.

# FY 2011 - 2015 Capital Improvement Program Water System Distribution Mains 1001

Priority 3	Project No. Description  1001 Distribution Mains	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Aid to Construction (Water)	2,784,440	2,784,440	0	0	0	0	0
	CIC Funding	37,904,580	18,704,580	5,000,000	3,100,000	1,400,000	6,400,000	3,300,000
	Water Fund	8,664,980	8,664,980	0	0	0	0	0
	Total	49,354,000	30,154,000	5,000,000	3,100,000	1,400,000	6,400,000	3,300,000



**DESCRIPTION:** This project provides for the installation of both new and replacement water distribution mains at various locations throughout the City. New developments will pay for required new mains. When mains are installed anticipating a future development, special connection charges and/or front footage charges are assessed and collected from property developers.

**JUSTIFICATION:** New distribution mains are required to fulfill increased service demands and capacity needs. Replacement of existing substandard mains will maintain the operating efficiency of the water system.

**SCHEDULE:** The goal is to install three and a half miles of main through projects #1001 and # 1019.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with Public Facilities Element of the General Plan by helping to achieve a high level of maintenance for existing facilities.

**HISTORY:** This is an ongoing project that was created before 1980.

## FY 2011 - 2015 Capital Improvement Program Water System Miscellaneous Water System Improvements

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Priority 4	Project No. Description  1006 Miscellaneous Water System Improvements	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Funding	5,264,000	3,564,000	300,000	300,000	350,000	350,000	400,000
	Water Fund	1,680,000	1,680,000	0	0	0	0	0
	Total	6,944,000	5,244,000	300,000	300,000	350,000	350,000	400,000



**DESCRIPTION:** This project provides for miscellaneous distribution, purification, pumping plant, reservoir, ground water, gravity water, and general plant improvements to the water system at various locations throughout the City.

**JUSTIFICATION:** This project is necessary to provide ongoing improvements as required to maintain water quality, improve the security and appearance of physical plants and reservoirs, and maintain adequate health standards.

**SCHEDULE:** Miscellaneous projects will be constructed and equipment purchased as required.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to ensure an adequate supply of safe potable water for consumption and adequate water for fire protection.

**HISTORY:** This is an ongoing project that was created before 1980 and receives funding each year.

#### Water System

#### Upgrade Well Pumps, Booster Pumps, Switchgears and Meters

1020

Priority 5	Project No. Description  1020 Upgrade Well Pumps, Booster Pumps, Switchgears and Meters	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Funding	6,149,800	2,749,800	0	1,125,000	1,025,000	750,000	500,000
	Federal Funds - NASA	2,500,000	2,500,000	0	0	0	0	0
	Water Fund	314,200	314,200	0	0	0	0	0
	Total	8,964,000	5,564,000	0	1,125,000	1,025,000	750,000	500,000



**DESCRIPTION:** This project provides for the upgrading or replacing of older and less efficient well and booster pumps, and obsolete and outdated switchgears.

**JUSTIFICATION:** Some of the existing well and booster pumps and meters are old and inefficient. Some of the switchgears are also old and may not meet current codes. Greater operating reliability and efficiencies will be realized by these upgrades.

**SCHEDULE:** Design of electrical upgrades at the Jones booster stations has been completed but construction is delayed until FY 2012. There is no work scheduled for FY 2011.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of service through more efficient operation of our equipment.

**HISTORY:** This project was created and received initial funding in FY 1994.

# FY 2011 - 2015 Capital Improvement Program Water System Well Collector Pipelines 1044

Priority 6	Project No. Description  1044 Well Collector Pipelines	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Funding	2,000,000	2,000,000	0	0	0	0	0
	Metropolitan Water District	6,400,000	1,800,000	0	0	4,600,000	0	0
	Water Fund	933,555	933,555	0	0	0	0	0
	Total	9,333,555	4,733,555	0	0	4,600,000	0	0



**DESCRIPTION:** This project provides for the collection of water from water wells through a pipeline system and piping this water directly to reservoirs. There are two main collector pipelines. The westside collector will convey water flows from Garfield and Villa wells to Sunset Reservoir. The eastside collector will convey water flows from Jourdon, Chapman, Woodbury, Monte Vista, Craig, Twombly and Wadsworth wells to Jones and/or Sheldon East Reservoirs.

**JUSTIFICATION:** This project will allow the blending of well water, in reservoirs, to meet current and future water quality regulations. Combining the well water flows will make future water treatment of well water more efficient and less costly. Also, this project will eliminate any entrained-air problems from wells.

**SCHEDULE:** No work is scheduled for FY 2011.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to ensure an adequate supply of safe potable water for consumption.

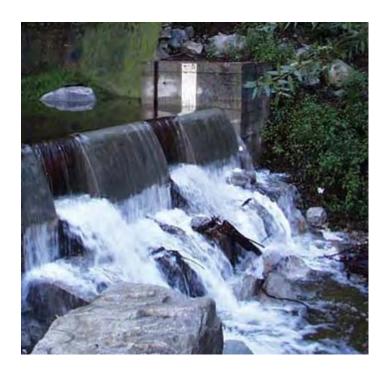
**HISTORY:** This project was created and received initial funding in FY 1998.

### FY 2011 - 2015 Capital Improvement Program Water System

#### Arroyo Spreading Basins and Intake Structures

1040

Priority 7	Project No. Description  1040 Arroyo Spreading Basins and Intake Structures	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Fund	1,400,000	700,000	0	300,000	400,000	0	0
	Total	1,400,000	700,000	0	300,000	400,000	0	0



**DESCRIPTION:** This project provides for facilities to increase spreading in the Arroyo Seco. This project has five phases:

Phase 1 (FY 2001): Phase 1 provided for the construction of the Millard Stream weir and intake. The project involved constructing a concrete weir and intake, and installing 350 lineal feet of 12-inch steel main.

Phase 2 (FY 2001): Phase 2 provided for the planning of the surveying, drawings, specifications, and required documents for permits and mitigation efforts. Planning for Phase 3 took place.

Phase 3 (FY 2002): Phase 3 involved the combining of sludge ponds 1 and 2, reconfiguring existing piping infrastructure, and demolishing the existing Los Angeles County Public Works' facilities.

Phase 4: Phase 4 provides for the planning of the Hahamongna Watershed Proposal. The project consists of widening the existing Los Angeles County spreading ponds 1-12 and constructing two to four new spreading basins.

Phase 5: Phase 5 will provide for the construction of the Hahamongna Watershed Proposal.

**JUSTIFICATION:** This project will allow the capture and spreading of water runoff in the Arroyo Seco. This additional diversion and storage will allow for better management of local water resources and may help to reduce reliance on expensive imported water.

**SCHEDULE:** No work is scheduled for FY 2011.

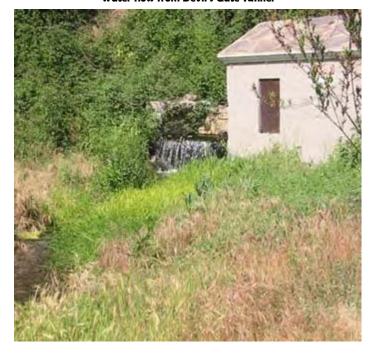
**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to ensure an adequate supply of safe potable water for consumption and adequate water for fire protection.

**HISTORY:** This project was created in FY 1995 and received initial funding in FY 2001.

# FY 2011 - 2015 Capital Improvement Program Water System Devil's Gate Tunnels 1043

Priority 8	Project No. Description  1043 Devil's Gate Tunnels	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Fund	1,150,000	750,000	0	400,000	0	0	0
	Total	1,150,000	750,000	0	400,000	0	0	0

#### Water flow from Devil's Gate Tunnel



**DESCRIPTION:** This project will rehabilitate the Devil's Gate Tunnels, build a new one-million-gallon capacity operational storage reservoir, and upgrade pumping equipment to maximize the use of surface runoff water through Devil's Gate tunnels for irrigation of Brookside Golf Course.

**JUSTIFICATION:** This water supply is available free to the Department and can be used to replace the purchase of more expensive imported water. The water that is collected in these tunnels can be diverted and used as irrigation water at a lower cost than purchased imported water.

**SCHEDULE:** In FY 2011, work includes preliminary design of the project. Work is contingent on the receipt of half of the project funding from the Rose Bowl.

**RELATIONSHIP TO GENERAL PLAN**: This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of service through more efficient management of resources. It is also consistent with the Conservation Element by encouraging a more efficient utilization of the City's water resources.

**HISTORY**: This project was created and initially funded in FY 1996.

#### Water System

#### Management Information Systems - Water and Power Department

1025

Priority Pro	1025 Management Information Systems - Water and Power Department	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
W	ater Bond	210,000	210,000	0	0	0	0	0
W	ater Fund	1,810,000	1,260,000	0	150,000	150,000	150,000	100,000
To	otal	2,020,000	1,470,000	0	150,000	150,000	150,000	100,000

#### Water System

Management Information Systems - Water and Power Department

1025



**DESCRIPTION:** This project provides for the development, upgrade, and maintenance of local area networks (LAN) at each of four departmental worksites; acquisition of equipment to interconnect substations, water facilities, and existing networks; and integration of all information critical to Water and Power (PWP) operations into the same, nonredundant database. It will further:

- Install routers and firewalls in the Department's network structure;
- Convert Water and Power documents and drawings to electronic format and collect/validate field data;
- Procure an Automated Data Collection/Bar Coding system for the Warehouse;
- Convert the existing meter and transformer inventory system currently stored on the HP into a client-server application;
- Clean existing data prior to beginning the conversion process.

**JUSTIFICATION:** The Department's October 1991 MIS study found that considerable time savings, administrative and operational benefits would accrue if manual procedures were automated and if existing "islands of automation" were integrated. This would eliminate large amounts of data entry and re-entry performed by several groups, resulting in increased productivity and reduced errors. The barcode project will save time and money by automating inventory utilizing hand-held barcode readers and barcodes. These automated systems reduce time and labor required to perform inventory counts and virtually eliminate data entry errors, thus enabling the department to collect inventory accurately and efficiently at a lower cost and with greater integrity. The existing meter and transformer inventory systems are outdated and not serving the department's current needs and they need to be converted to a client-server type application.

**SCHEDULE:** Work in FY 2011 includes procurement of servers and network switches; application development; configuration of additional data sources in the data warehouse; and other miscellaneous projects.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to provide a high level of service through more efficient management of resources.

**SPECIAL CONSIDERATION:** This project is also shown in the Electric System (Project 3119) and Technology Projects (Project 1025 and 3119) Sections and Summary. The appropriated dollar amount is not included in the Category Summary total for the Technology Projects Section to avoid duplication.

**HISTORY:** This project was created in FY 1991 and received initial funding in FY 1992.

#### Water System

#### Water Project Work Management System - Water and Power Department

#### 1045

Priority 10	Project No 1045	o. Description  Water Project Work Management System - Water and Power Department	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Bo	nd	300,000	300,000	0	0	0	0	0
	Water Fu	nd	300,000	150,000	0	150,000	0	0	0
	Total		600,000	450,000	0	150,000	0	0	0



**DESCRIPTION:** This project will provide the department with an automated means of formulating the project breakdowns according to time, cost, material and staff requirements, and scheduling and workflow management. It will also track project performance.

**JUSTIFICATION:** With the past reduction in Water and Power Department's staff, this system will allow a more streamlined process of project planning, management and tracking, and eliminate lengthy research, calculations, and manual processes previously done by staff. This system will also allow for more effective facilities management.

**SCHEDULE:** No work is scheduled for FY 2011.

**RELATIONSHIP TO THE GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of public service through more efficient management and greater work productivity.

**SPECIAL CONSIDERATION:** This project is also shown in the Technology Projects Section and work is being done in conjunction with Project 3140 in the Electric System Section. The appropriated dollar amount is not included in the Category Summary total for the Technology Projects Section to avoid duplication.

**HISTORY:** This project was created in FY 1999 and funding will continue as needed.

# FY 2011 - 2015 Capital Improvement Program Water System Reclaimed Water 1013

Priority Project No. Description 11 1013 Reclaimed Water	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
CIC Funding	2,450,000	2,450,000	0	0	0	0	0
Water Bond	32,200,000	200,000	12,000,000	6,000,000	6,000,000	1,000,000	7,000,000
Water Fund	8,700,000	8,700,000	0	0	0	0	0
Total	43,350,000	11,350,000	12,000,000	6,000,000	6,000,000	1,000,000	7,000,000



**DESCRIPTION:** This project will involve an evaluation of potential reclaimed water sources, determination of use base, and design/construction of facilities to provide and distribute reclaimed water. This includes the cost to participate in the expansion of the City of Glendale's reclaimed water system.

**JUSTIFICATION:** Future water supplies in Southern California are expected to be limited. Reclaimed water can augment fresh water supplies through its use for golf courses, freeway landscaping, parks, schools, large turf areas, and industrial processes.

**SCHEDULE:** Work in FY 2011 includes completing a Phase 1 feasibility study and Phase 1 preliminary design; preparing for the environmental documentation; and continuing annual payment to the City of Glendale.

**RELATIONSHIP TO GENERAL PLAN**: This project is consistent with the General Plan and would allow the purchase of more economical water for specific use. It will also allow the Department to utilize existing water resources efficiently, and it is consistent with Land Use Element Objective 18 by increasing the efficiency of water use.

**HISTORY:** This project was created and received initial funding in FY 1993.

#### FY 2011 - 2015 Capital Improvement Program Water System

#### Convert Chlorination Stations to Chloramines

1031

Priority 12	Project No.	o. Description  Convert Chlorination Stations to Chloramines	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Fund	ling	1,520,000	1,520,000	0	0	0	0	0
	Water Bo	ond	950,000	0	0	0	950,000	0	0
	Water Fu	nd	629,973	629,973	0	0	0	0	0
	Total		3,099,973	2,149,973	0	0	950,000	0	0



**DESCRIPTION:** This project provides for the design and installation of chloramine disinfection facilities to replace chlorination stations.

**JUSTIFICATION:** This project is necessitated by the Disinfection By-Products Rule effective in 2002. Using chloramines as the disinfection agent will reduce disinfection by-products.

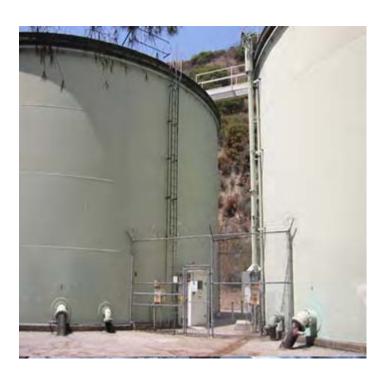
**SCHEDULE:** In FY 2011, construction of the chloramine station at the Monk Hill Treatment Plant will be completed, and construction of the chloramine station at the Sunset Perchlorate Treatment Plant will begin.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to assure a safe supply of potable drinking water for consumption.

**HISTORY:** This project was created and received initial funding in FY 1994.

# FY 2011 - 2015 Capital Improvement Program Water System Reservoir Improvements 1037

Priority 13	Project No. Description 1037 Reservoir Improvements	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Funding	8,809,000	5,159,000	0	1,575,000	875,000	1,200,000	0
	Total	8,809,000	5,159,000	0	1.575.000	875,000	1,200,000	0



**DESCRIPTION:** This project will provide for major repairs and upgrades to the City's 15 existing water tanks and reservoirs. Most of the tanks and reservoirs are over 60 years old. Examples of the repairs and upgrades may include replacement of reservoir roofing, lining the reservoir floor with hypaton liners, and changing old outlet and inlet valves.

**JUSTIFICATION:** The reservoir repair will improve the reservoir integrity and reduce or eliminate leaks.

**SCHEDULE:** In FY 2011, work includes design of the Sheldon Reservoir seismic upgrades. Construction of the seismic retrofits at the Sheldon Reservoir is anticipated to begin in FY 2012.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to achieve a high level of maintenance for existing facilities, and it is also consistent with the Seismic and Safety Element by minimizing losses due to natural disasters.

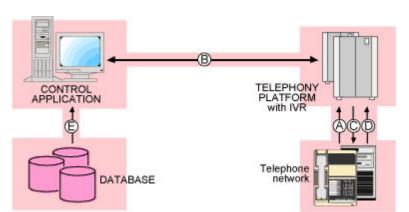
**HISTORY:** This project was created and received initial funding in FY 1994.

#### Water System

#### Interactive Voice Response System (IVR)

1016

Priority 14	Project No. Description  1016 Interactive Voice Response System (IVR)	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Bond	100,000	100,000	0	0	0	0	0
	Water Fund	428,399	315,899	0	37,500	25,000	25,000	25,000
	Total		415,899	0	37,500	25,000	25,000	25,000



**DESCRIPTION:** This project will provide for the Water Division's share of the procurement of the Pasadena Water and Power's portion of an Interactive Voice Response/Interactive Web Response (IVR/IWR) system for the City of Pasadena.

**JUSTIFICATION:** The new IVR/IWR system will expand service to customers by providing immediate alternatives for automated information access and payments as well as personal assistance via telephone or internet. It is an integral part of Pasadena Water and Power's effort to increase customer service levels while reducing operating costs in a deregulated environment. Integration of the IVR/IWR system with Orcom will bring call-back functionality to the system.

**SCHEDULE:** In FY 2011, enhancements and changes to the existing IVR and IWR applications are planned through a city-wide system upgrade.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of public services, efficient management and greater work productivity.

**HISTORY:** This project was created and received initial funding in FY 1999.

## FY 2011 - 2015 Capital Improvement Program Water System Field Service Automation

#### ield Service Auto

<b>Priority</b> 15	Project No. Description  1012 Field Service Automation	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
•	Water Bond	30,000	30,000	0	0	0	0	0
	Water Fund	555,749	335,749	0	55,000	55,000	55,000	55,000
	Total	585,749	365,749	0	55,000	55,000	55,000	55,000



**DESCRIPTION:** This project provides for the following upgrades for the Customer Service Field Service Group Meter Readers and Reconnect:

- -Automatic Meter Reads (AMR) Radio Frequency Meter Reading Handheld Devices and drive-by meter reading equipment
- -Upgrades of Meter Reading Software (MVRS)
- -Meter Reading Training Software.

**JUSTIFICATION:** Upgrades to the Customer Service Meter Reading Operation will reduce the operational costs of meter reading and help improve billing accuracy by enabling the department to obtain accurate reads from the field. AMR water meters are being installed throughout the City. Meter Reading Handheld devices are being upgraded and enabled to read regular water meters and AMR water meters. MVRS Meter Reading Software is being upgraded to accommodate changes in the upload and download of information from the billing system. Meter Reader Training Software will be upgraded to provide meter readers with the latest training tools. Other forms of meter reading such as drive-by and remote reading technology will be investigated for possible pilot programs. Mobile dispatching of service orders will also be investigated for a possible pilot program.

**SCHEDULE:** Work in FY 2011 will include on-going projects such as AMR hardware and software upgrades; primary MVRS software upgrades; and purchases of lockboxes and meter reading training software.

**RELATIONSHIP TO THE GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of public service through expanded services, efficient management and greater work productivity.

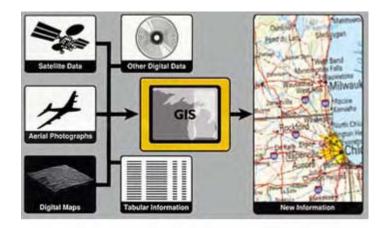
**HISTORY:** This project was created and received initial funding in FY 2000.

#### Water System

#### Geographic Information System - Water and Power Department

1009

Priority 16	Project N 1009	Power Department r Bond	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Bo	ond	800,000	800,000	0	0	0	0	0
	Water Fu	and	3,882,906	3,182,906	100,000	200,000	200,000	100,000	100,000
·	Total		4,682,906	3,982,906	100,000	200,000	200,000	100,000	100,000



**DESCRIPTION:** This project provides for the analysis, development, and procurement of a departmental geographic information system (GIS) for the Water and Power Department. The base map has been completed, followed by application development, hardware procurement and/or procurement of custom, off-the-shelf programs and conversion of utility data.

JUSTIFICATION: The geographic information system will reduce the cost of maintaining manually produced and updated maps and record systems. It will also reduce duplicate record keeping by different sections of the department. In addition, it will provide greater reliability, faster data access, and more efficient processing of information.

SCHEDULE: Work in FY 2011 includes upgrading to ArcGIS Server 9.3.1 and 9.4; procuring and configuring Field Mapplet hardware and software; ESRI/ArcFM software training; additional finetuning of Spatial Wave applications; configuring/designing Data Warehouse reports; and other miscellaneous projects.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of public service through more efficient management and greater work productivity.

**SPECIAL CONSIDERATION:** This project is also shown in the Electric System (Project 3005) and Technology Projects Sections. The appropriated dollar amount is not included in the Category Summary total for the Technology Projects Section to avoid duplication.

**HISTORY**: This project was created before FY 1994 and received initial funding in FY 1994.

## FY 2011 - 2015 Capital Improvement Program Water System Water and Power Warehouse Modernization

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<b>Priority</b> 17	Project No. Description  1056 Water and Power Warehouse Modernization	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Fund	4,734,940	3,919,940	0	815,000	0	0	0
-	Total	4,734,940	3,919,940	0	815,000	0	0	0



**DESCRIPTION:** This project provides for the modernization of the warehouse including the upgrading of the freight elevator. Included in this plan is the enhancement of the existing fire sprinkler system along with installation of new fire alarms to bring the building up to code. These changes will allow the warehouse to operate with maximum efficiency using a computer inventory tracking system. Racks, shelving, and bin systems will be replaced as needed, or if deemed to be seismically unsafe. Racking and shelving will be a combination of open and closed for maximum space utilization. Grip pallet racks for oversized or heavier-weight items will be installed and current open racks retrofitted for weight-bearing loads. Materials handling equipment including pallet jacks, carts, dollies, basket hampers, coil lifters, etc. will be replaced as needed. Ergonomically correct workstations will also be installed throughout the warehouse. The remaining work involving the modernization of the warehouse is included in the Water and Power Yards Building Renovations and New Operations Facility/EOC project (71142) in the Municipal Building and Facilities Section.

**JUSTIFICATION:** The warehouse has not had any significant upgrades in approximately 30 years. Racking systems inside the warehouse are inadequate, undersized, and not properly laid out to provide for efficient storage and retrieval of inventory. Exterior racks in the yards are not up to code for heavy loads and are seismically unsafe.

**SCHEDULE:** This project was previously included in the "Water and Power Yards Building Renovations and New Operations Facility/EOC" (71142) under the Municipal Buildings and Facilities Section.

**RELATIONSHIP TO THE GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of service through efficient warehouse management and greater work productivity. It also provides a safe and secure working environment for employees.

**HISTORY:** This project was created and received intial funding in FY 2003.

## FY 2011 - 2015 Capital Improvement Program Water System Customer Information System

1011

Priority 18	Project No. Description  1011 Customer Information System	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Bond	2,315,000	20,000	1,000,000	1,250,000	15,000	15,000	15,000
	Water Fund	632,485	632,485	0	0	0	0	0
	Total	2,947,485	652,485	1,000,000	1,250,000	15,000	15,000	15,000



**DESCRIPTION:** The Customer Information System (CIS) provides for customer billing for Water, Power, Refuse, and Sewer Services. System enhancements and upgrades are planned to add functionality to CIS to enable the system to interface with MVRS meter-reading software to read AMR and Probe Meters; bill and read interval data of large customers using MV90 xi Commercial Customer Remote Meter Reading; bill and read interval data of selected residential, small and medium meters for the load research project; investigate the use of Mobile Dispatching of Service Orders in conjunction with the Field Service Automation program; provide interface meter information to the GIS project; pilot new payment methods such as balance billing, preferred pay date, direct credit card payment; pilot enhanced interfaces with IWR to allow customers to start/stop service, change address, request service, and update account information all through the Pasadena Water and Power website; and enable water budget allocation to all residential customers.

**JUSTIFICATION:** The CIS Billing System reduces operational cost by maintaining a central data base of customer records and billing information. As the system matures, system upgrades and enhancements will be made. Interfaces with other systems will be made to maintain or enhance the capabilities of the system, support billing, meter reading, meter shops, GIS, and provide customers with the highest level of service.

**SCHEDULE:** Work in FY 2011 includes Water budget-based custom programming. This project will allow the CIS billing system to calculate all budget-based formulas for all residential budget-based water customers in the billing system. The billing vendor will make all necessary changes to the system to allow for normal billing and exceptions.

**RELATIONSHIP TO THE GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping maintain a high level of public service through expanded services, efficient management and greater work productivity.

**HISTORY:** This project was created and received initial funding in FY 2000. One CIS system software upgrade was completed in FY 2003, a second in FY 2007, and a third upgrade completed in FY 2009.

## FY 2011 - 2015 Capital Improvement Program Water System

#### Sunset Perchlorate Treatment Plant

1062

<b>Priority</b> 19	Project No.	o. Description Sunset Perchlorate Treatment Plant	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	CIC Fund	ling	500,000	500,000	0	0	0	0	0
	Federal F	Funds - EPA	1,750,000	1,750,000	0	0	0	0	0
	Water Bo	ond	250,000	0	250,000	0	0	0	0
	Water Fu	nd	800,000	800,000	0	0	0	0	0
	Total		3,300,000	3,050,000	250,000	0	0	0	0



**DESCRIPTION:** This project provides for the design and construction of a perchlorate treatment system for the Sunset Reservoir wells. Initially the plant will treat Bangham, Copelin and Sunset wells. Garfield and Villa wells may not need treatment depending on State Department of Health Services restrictions on blending and future maximum contaminate level requirements. The Sunset Reservoir wells were shut down in January 2002 when the State lowered its action level for perchlorate.

**JUSTIFICATION:** Treating the Sunset Reservoir wells is essential to control the spread of the perchlorate contamination plume in the groundwater. With treatment the City can resume using its local water resources instead of relying on expensive imported water supplies.

**SCHEDULE:** Construction of the entire treatment plant will start when Federal funds are received.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element Objective 1 by providing a high level of public service at minimum cost. The project is also consistent with Objective 2 by providing a more efficient utilization of public facilities. In addition, the project is consistent with Objective 5 by providing a high level of maintenance of existing facilities.

**HISTORY:** This project was created and received initial funding in FY 2005.

## FY 2011 - 2015 Capital Improvement Program Water System Monk Hill Perchlorate Treatment Plant

#### Monk Hill Perchlorate Treatment Plant 1063

Priority 20	Project No. Description  1063 Monk Hill Perchlorate Treatment Plant	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Federal Funds - NASA	15,120,000	5,950,000	0	2,120,000	4,100,000	1,400,000	1,550,000
	Total	15,120,000	5,950,000	0	2,120,000	4,100,000	1,400,000	1,550,000



**DESCRIPTION:** This project provides for the design and construction of a perchlorate treatment system for the Monk Hill wells. The plant will treat Arroyo, Well 52, Windsor and Ventura wells. Perchlorate was first detected June 1997, and by January 2002 all four wells were shut down when the State lowered its action level for perchlorate.

**JUSTIFICATION:** Treating the Monk Hill wells will help control the spread of the perchlorate contamination plume in the groundwater. With treatment, the City can continue using its local water resources instead of relying on expensive imported water supplies. The responsible parties will pay the cost of this groundwater treatment process.

**SCHEDULE:** In FY 2011, work will include: 1) plant design, permits, construction, testing, treatment plant shakedown; contaminant investigation; agency coordination; laboratory testing; plant operation and maintenance; and 2) working with vendor and contractor on equipment leasing, and media replacement and filter cartridges replacement.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element Objective 1 by providing a high level of public service at minimum cost. The project is also consistent with Objective 2 by providing a more efficient utilization of public facilities. In addition, the project is consistent with Objective 5 by providing a high level of maintenance of existing facilities.

**HISTORY:** This project was created and received initial funding in FY 2006.

#### FY 2011 - 2015 Capital Improvement Program Water System Customer Driven Meters and Services

#### 1003

Priority 21	Project N 1003	o. Description  Customer Driven Meters and Services	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Aid to Co	onstruction (Water)	10,640,000	4,640,000	1,000,000	1,100,000	1,200,000	1,300,000	1,400,000
	Total		10,640,000	4,640,000	1,000,000	1,100,000	1,200,000	1,300,000	1,400,000



**DESCRIPTION:** This project provides for the installation of new water meters, services, and mains as requested by customers and developers throughout the City. It also includes new fire hydrants and other requirements from the Fire Department for new building/development projects.

**JUSTIFICATION:** Meeting customer and developer requests for new meters and services is an important priority in providing water service. Work is done in conjunction with the Fire Department requirements.

**SCHEDULE:** PWP will install mains, meters, and services for customers upon request and at customers' expense.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to provide a high level of service and greater work productivity by using available technology.

**HISTORY:** This project was created and received initial funding in FY 2007.

# FY 2011 - 2015 Capital Improvement Program Water System Radio Equipment Replacement 1065

Priority 22	Project No. Description  1065 Radio Equipment Replacement	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Bond	250,000	250,000	0	0	0	0	0
	Water Fund	945,000	450,000	420,000	50,000	25,000	0	0
<u>-</u>	Total	1,195,000	700,000	420,000	50,000	25,000	0	0

**DESCRIPTION:** This project provides for the research, analysis, procurement, and implementation of new digital radio equipment for field operations. This project will also look into incorporating mobile data terminal technology or vehicle locator devices for department vehicles.

**JUSTIFICATION:** The existing radio equipment does not conform to the upcoming FCC rule requirements. Therefore, PWP plans to replace existing equipment with digital radio equipment that conforms to the new requirements.

**SCHEDULE:** In FY 2011, work will include: procuring, configuring, and completing construction of infrastructure; procuring and configurating subscriber equipment; and other miscellaneous projects.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with Objective 4 of the Public Facilities Element of the General Plan by helping to provide a high level of service and greater work productivity by using available technology.

**HISTORY:** This project was created and received initial funding in FY 2007.

## FY 2011 - 2015 Capital Improvement Program Water System New Well Projects (Conjunctive Use)

#### 1021

Priority 23	Project No.	o. Description  New Well Projects (Conjunctive Use)	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Metropol	itan Water District	13,800,000	300,000	0	0	1,500,000	6,000,000	6,000,000
	Water Bo	ond	1,640,000	1,640,000	0	0	0	0	0
	Water Fu	nd	2,510,000	2,510,000	0	0	0	0	0
	Total		17,950,000	4,450,000	0	0	1,500,000	6,000,000	6,000,000

**DESCRIPTION:** This project will provide capital facilities to include aquifer storage and recovery wells, wellhead treatment (perchlorate and nitrates), and an interconnection between Pasadena and the Foothill Metropolitan Water District (MWD). Wells will recharge the ground water basin and in turn recover the stored water. Additional groundwater wells will be installed after the Pasadena Groundwater Storage Program is finalized.

**JUSTIFICATION:** Economies of scale will be realized from more efficient use of the available storage space in the underlying groundwater basin, and at the same time improve the reliability of water supplies during droughts.

**SCHEDULE:** Project is currently on hold pending an agreement between PWP and MWD.

**RELATIONSHIP TO GENERAL PLAN:** This project is consistent with the Public Facilities Element of the General Plan by helping to maintain a high level of service through more efficient management of resources. It is also consistent with the Conservation element by encouraging a more efficient utilization of the City's water resources.

**OPERATING BUDGET IMPACT**: The wells will permit greater purchases of MWD water at reduced rates. The result will be a reduction in annual operating expenses.

HISTORY: This project was created and received initial funding in FY 1992.

# FY 2011 - 2015 Capital Improvement Program Water System Eaton Canyon Road Repair 1067

Priority 24	Project No. Description  1067 Eaton Canyon Road Repair	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Federal Emergency Management Agency	1,481,458	1,481,458	0	0	0	0	0
	Total	1,481,458	1,481,458	0	0	0	0	0



**DESCRIPTION:** This project provides for the repair of a portion (about 0.5 mile) of Mount Wilson Toll Road within the City of Pasadena boundary, and debris cleanup from the large landslide in Eaton Canyon. Work will be completed by Los Angeles County Fire Department, the main user of the road.

**JUSTIFICATION:** The road is owned by the City of Pasadena. A large landslide has closed off access needed by emergency vehicles and Los Angeles County Fire personnel, making the road very dangerous for public use.

**SCHEDULE:** Project is on hold pending role/responsibility clarification from the County.

**RELATIONSHIP TO THE GENERAL PLAN:** This project is consistent with the Safety Element of the General Plan by helping to ensure that grading and construction operations are necessary to correct for unstable soils, soil erosion, landsliding and flooding debris, and /or mudflows in the hillside area. Goal G-1: Minimize the risk to life or limb and property damage resulting from soil and slope instability.

**HISTORY:** This project was created and initially funded in FY 2007.

### FY 2011 - 2015 Capital Improvement Program Water System

#### Water Integrated Resource Plan and Urban Water Management Plan

1069

Priority 25	Project No 1069	. <b>Description</b> Water Integrated Resource Plan and Urban Water Management Plan	Total Estimated Costs	Appropriated Through FY 2010	Adopted FY 2011	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015
	Water Fun	d	560,000	372,000	188,000	0	0	0	0
	Total		560,000	372,000	188 000	0	0	0	0

**DESCRIPTION:** This project provides integrated resource planning, feasibility, and technical studies related to the selection and construction of new water supply and demand-side resources. The Integrated Resource Plan (IRP) will provide technical data in support of the 2010 Urban Water Management Plan, a 25-year planning document required every five years by the California Department of Water Resources.

**JUSTIFICATION:** The IRP will identify new water supplies required to meet demand growth and determine their cost-effectiveness compared to current water supply sources. Sustainable and demand-side resources may provide cost-effective alternatives to traditional local and imported water supplies and assist in meeting environmental and regulatory objectives. This project will help identify, evaluate, and select cost-effective and feasible water resource projects.

**SCHEDULE:** Technical and feasibility studies through the IRP for various water supply and demand-side projects began in FY 2010 and will continue into FY 2011. The 2010 Urban Water Management Plan must be submitted to the Department of Water Resources by July 1, 2011.

**RELATIONSHIP TO THE GENERAL PLAN:** This project is consistent with Public Facilities Objective 2 by planning more efficient development and utilization of public facilities. Also, the project is consistent with Policy 204.0 by the continued search for opportunities to provide for the City's water needs at the lowest possible per unit cost.

**HISTORY:** This project was created and initially funded in FY 2010.