



City of Bellflower

Municipal Water System

2014 Annual Report

July 15, 2014

**City of Bellflower
16600 Civic Center Drive
Bellflower, California 90706
(562) 804-1424**

1. **Introduction.** The following report has been prepared for the City Council to provide an overview of the City's Municipal Water System, including a brief history, summary of water sources and water costs, history of MWS water rates, prior year accomplishments, and major initiatives for the coming year.

2. **Definitions.** Where used herein:

- "Acre foot" or "af" means the amount of water necessary to cover an acre of land to a depth of one-foot. One acre foot of water equals 325,851 gallons or 43,560 cubic feet. This is the standard unit of volume for large scale water resources.

- "Billing Cycle" or "BiMB" means the interval between water bills, presently bimonthly.

- "BSMWC" means Bellflower Somerset Mutual Water Company.

- "CBMWD" means the Central Basin Municipal Water District.

- "City" means the City of Bellflower.

- "Commodity Charge" means the rate charged per 100 cubic feet of water used, as established by resolution of the City Council.

- "CPUC" means the California Public Utilities Commission, a regulatory body that oversees, among other things, privately held water companies.

- "Customer" means the owner, tenant, or other occupant of the property who has established the service connection.

- "Groundwater" means water pumped by a provider from its own wells for its own use.

- "GPM" means "gallons per minute," the standard measurement used for water flow.

- "Imported water" means water obtained from a third-party source.

- "MWS" means the City of Bellflower Municipal Water System.

- "MWD" means the Metropolitan Water District of Southern California.

- "Owner" means the owner of the property at which the service connection is located, or his/her authorized agent.

- "Person" means any individual, firm, company, public entity, association, society, corporation, partnership, or group.

- "Service Charge" means a charge which is applicable to all metered service to provide reimbursement to the City for the costs of services related to the supplying of water to the property but which are not directly related to the amount of water utilized at a site but,

instead, are otherwise appropriately apportioned to the customer, as established by resolution of the City Council.

- “Service Connection” means the water line and appurtenant facilities used to extend water service from the water main to the meter box.
- “Service Extension” means the water line and appurtenant facilities used to extend water service from the meter to the customer’s premises.
- “Water Service Area” means the area of the City served by the MWS.
- “Water Service” or “Water Services” means supplying service through a pipe or other constructed conveyance for any purpose, but does not include the sale of water for human consumption by a water supplier to another water supplier for resale.
- “Water System” means the infrastructure of the City’s water system only.
- “Water System Operator” or “Operator” means the party with whom the City contracts for the operation of the water system, or delegated specific responsibilities for the operation of the water system, presently Bellflower-Somerset Mutual Water Company.

3. **Background.** The MWS was established by the City Council in 2007 to operate the water system acquired from Peerless Water Company at a cost of \$5.8 million.

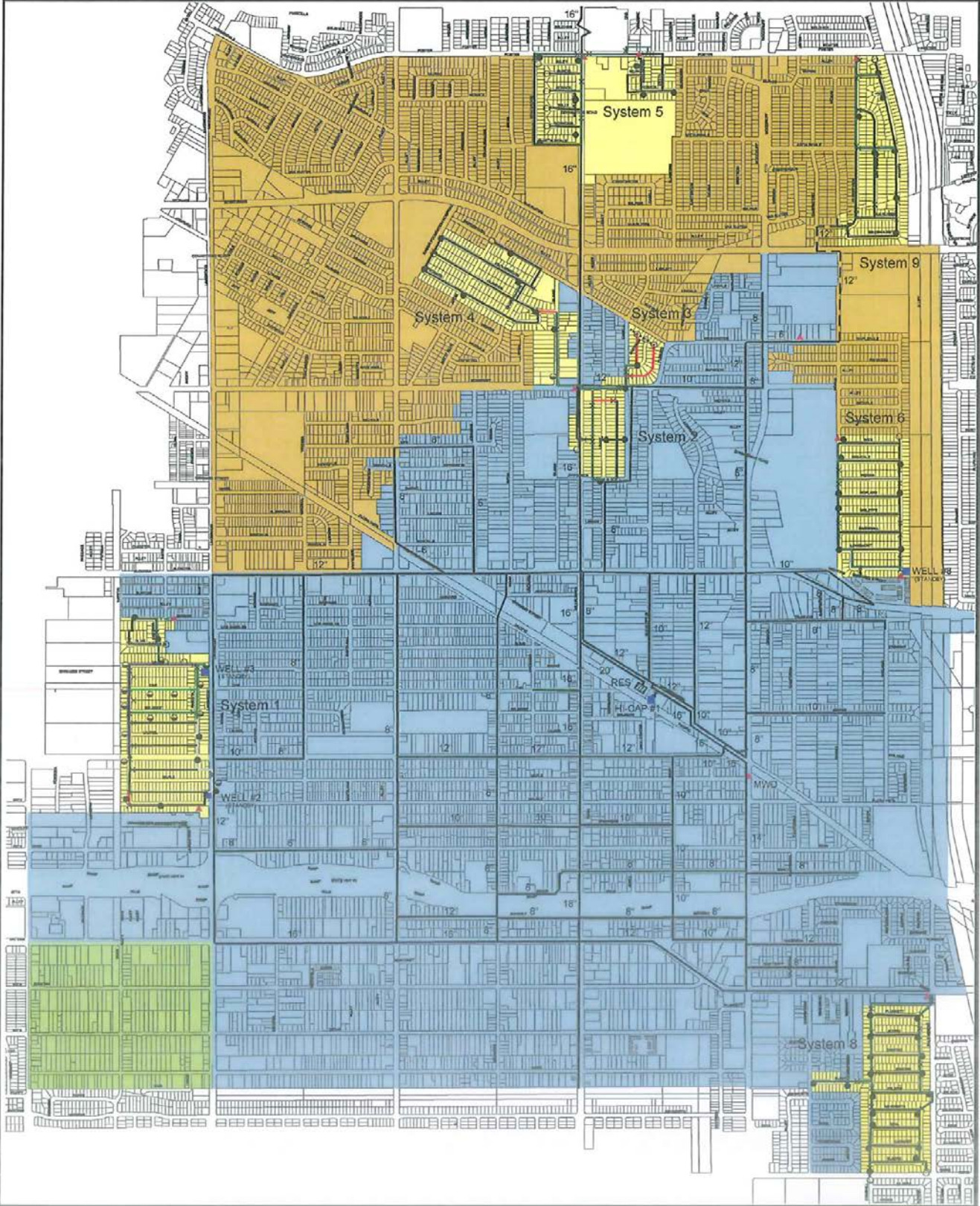
a. The MWS currently serves 1,825 customers, or approximately 10% of the City, from eight separate systems in geographically separated areas:

Distribution of MWS Customers by System	
System	Customers
1	412
2 & 3	171
4	244
5	161
6	275
8	312
9	243
Non-System Customers	7
Total	1,825

Distribution of MWS Customers by Meter Size	
Meter Size	Customers
5/8" x 3/4"	1,774
3/4"	24
1"	8
1 1/2"	3
2"	15
3"	0
4"	1 Fire
Total	1,825

Of the MWS' 1,825 customers, 1,791 are single-family residential, 30 are multi-family residential, 1 is commercial, and 3 are industrial.

Water System Map – June 2014



b. The MWS production facilities consist of one high capacity water well (HCW):

MWS Water Wells						
Well	Location	Status	Dimension	Depth to Water	Pumping Capacity	Quantity Pumped
HCW 1	Flora Vista Street	Active	30"	101'	3,500 gpm	3,243 af/yr

Wells 2, 3 and 8 were previously taken out-of-service and are waiting decommissioning. Well 17 was decommissioned in June 2014.

c. The MWS distribution system consists of 78,103 lineal feet of asbestos cement pipe, ductile iron, polyvinyl chloride and welded steel pipe ranging from 2-inches to 12-inches in diameter. The majority of the distribution system consists of 4-inch and 6-inch AC pipe. The system also includes approximately 1,824 meters and 79 fire hydrants.

Pipeline Summary					
Pipe Inside Diameter (inches)	Pipe Lengths (feet) Asbestos Concrete	Pipe Lengths (feet) Ductile Iron	Pipe lengths (feet) Polyvinyl Chloride	Pipe Lengths (feet) Steel	Total Length (feet)
2	0	0	0	1,177	1,177
3	0	0	0	6,822	6,822
4	38,332	78	0	903	39,313
5	0	0	0	1,281	1,281
6	20,601	330	90	0	21,021
8	2,308	86	3,600	0	5,609
12	0	2,880	0	0	2,880
Total	61,241	3,374	3,690	10,183	78,488

Except for 6,980 linear feet of new and replacement distribution piping installed during the last five years, the age of the pipelines typically ranges from 50 to 70 years with more than 50% of the distribution system reaching the end of its service life within the next 20 years.

d. The MWS System owns 986 acre feet of water rights which is sufficient to meet our 700 acre feet per year service demand and to lease water rights surplus to our needs at competitive rates to other water purveyors. Separate from the MWS the City also owns another 394 acre feet of water rights for a grand total of 1,380 acre feet.

e. The MWS' average estimated service demand is 700 acre feet per year, including 632 acre feet delivered to our retail MWS customers, and 68 acre feet used for system flushing and other maintenance operations.

f. Under the direction of the City Manager, the Director of Public Works oversees strategic planning, financial management, policy development, and capital projects for the MWS. The Director is assisted by the City's Finance Department, the City's contract water program manager, and the City's contract water system operator.

g. The City's contract water system operator, Bellflower-Somerset Mutual Water Company, is responsible for the day-to-day operation of the Water System.

4. Key Dates. The following are key dates in the history of the Municipal Water System:

Circa 1940	Peerless Land and Water Company founded
May 2000	Southern California Water Company and Peerless Water Company submit joint application to CPUC for approval of merger
October 2000	Peerless customers ask that City intervene to block merger
October 9, 2000	City Council adopts resolution opposing the proposed merger
October 23, 2000	Residents initially requested City Council action to block merger
November 8, 2001	CPUC denied the proposed merger
August 2002	City began formal negotiations for purchase of Peerless Water System
February 2004	Responsibility for MWS oversight assigned to Assistant City Manager
May 24, 2004	City Council authorizes offer to purchase Peerless Water Company assets and research into issuance of bonds to finance acquisition
December 13, 2004	City Council initiated action to condemn Peerless Water Company
February 2005	City suspended negotiations to purchase Peerless Water System
May 2005	City entered into litigation with Peerless Water Company
June 2006	Bellflower Public Financing Authority (BFA) created
August 14, 2006	Concluded Operating Agreement with BSMWC
December 11, 2006	City adopted PWC rates as initial MWS water rates
January 12, 2007	City of Bellflower assumed control of PWC assets; litigation terminated
June 16, 2007	City increased water rates by 60%
June 16, 2008	City increased water rates by 4%
June 2008	City completed system interconnection at Lakewood and Walnut
July 9, 2008	Completed sale of \$8.23 million in MWS Certificates of Participation
November 2008	City completed closure of 12 inactive/abandoned water wells
October 28, 2009	City completed system interconnection from Mapledale to Van Ruiten
November 9, 2009	City increased water rates by 3.5%
April 2010	Completed partial reconstruction of System 1 serving 108 customers
October 1, 2010	City began principal payments on MWS Certificates of Participation
August 2011	Responsibility for MWS oversight assigned to Director of Public Works
March 2012	High Capacity Well #1 completed
June 2012	Wells #3 and #8 taken off-line and out-of-service
November 2012	Dunbar interconnection completed
February 2013	First meeting of the Municipal Water Commission

5. Water Conservation. Traditionally, the City has relied on voluntary water conservation measures. In the event of a statewide drought or other water emergency, the City may implement mandatory water conservation measures regulating hose watering, watering lawns and landscaping, indoor plumbing and fixtures, washing vehicles, drinking water in restaurants, and water-efficient landscaping. These measures are found in Chapter 13.16 of the Bellflower Municipal Code. Although water conservation is not mandatory, given Southern California’s arid climate and longstanding water supply issues, residents are most strongly encouraged to conserve water whenever possible. Water remains our most valuable and essential natural resource.

6. Water Usage. As a result of conservation efforts and improved system maintenance, the MWS’ water usage has decreased by up to 3% from 2007-08 levels. The City continues to search for ways to reduce consumption and improve efficiency.

MWS Water Consumption¹							
2007-08 Actual	2008-09 Actual	2009-10 Actual	2010-11 Actual	2011-12 Actual	2012-13 Actual	2013-14 Actual	2014-15 Projected
756.11 af	717.43 af	672.40 af	672.00 af	659.34 af	658.36 af	732.00 af	735.00 af

7. Water Sources. Water used by Bellflower customers is either “groundwater” (i.e., water pumped from a well) or “imported water” (i.e., water transported via aqueduct or pipe from a remote source - Colorado River, Sacramento Delta, etc.). These water supplies are not unlimited, therefore it is necessary to conserve water and prevent the unnecessary and wasteful use of these limited resources. The City is served by four retail water providers:

Water Sources						
Water Provider	Percent of City Served	Service Demand	Operating Wells	Water Source		Water Rights
				Ground	Imported	
Bellflower Municipal Water System	10%	732 af/yr	1	100%	0%	986 af
Bellflower-Somerset Mutual Water Company	61%	5,425 af/yr	8	100%	0%	4,313 af
Park Water Company ²	25%	1,770 af/yr	1 ³	27%	68%	702 af ⁴
Bellflower Home Garden Water Company	4%	388 af/yr	0	0%	100%	306 af
Total	100%	8,315 af/yr	10	33%	67%	NA

The shortfall in water rights needed to meet citywide service demand is fulfilled by leasing additional water rights on the open market or by importing water from the MWD.

In addition to the above water rights, the City owns 394 af which are separate from the MWS and which are leased on the open market. Another approximately 99 af of water rights exist within the City and may be available for lease. Park Water Company owns substantial additional water rights in areas outside the City.

¹ Includes approximately 50 af/yr expended for system flushing and other maintenance operations.
² Park Water Company’s data is for calendar year 2013. Service demand and water source data is extrapolated from data for its Bellflower-Norwalk service area, and uses 2% recycled water.
³ Only includes the single well physically located in Bellflower.
⁴ Includes all Park Water Company water rights in the Central Basin.

8. **Water Costs.** The cost of water is largely determined by its source, with groundwater being much less expensive than imported water. Presently the MWS relies entirely on groundwater. For historical information on the cost of imported water see the 2011 (or earlier) MWS Annual Report.

MWS Current and Estimated Future Water Costs			
Cost	Rate per Acre Foot		
	Jul 2014	Jan 2015	Jul 2015
WRD Recharge Assessment ^{5 6}	\$268	\$268	\$268
Energy ⁷	\$60	\$60	\$60
Treatment	\$54	\$54	\$54
Total	\$382	\$382	\$382

9. **Water Rates.** The water rates are reviewed annually, whether or not any rate change is proposed. Water rates have been raised three times since the MWS began operations in January 2007: June 2007, June 2008, and November 2009.

The following is a summary of water rate changes made since acquisition of the MWS in January 2007 (note: the decreased average customer's cost is due to decreased use).

The total rate increase since 2007 amounts to about \$1 per day, and is roughly equal to one-half penny for every gallon of water used by the customer.

History of MWS Water Rates					
	Bi-Monthly Service Charge⁸	Commodity Charge⁹	Average Customer		Cost Change
			Use¹⁰	Cost¹¹	
Initial Rate	\$26.44	\$1.720	36.00 ccf/BiMB	\$88.36	NA
2007	\$68.98	\$2.051	28.11 ccf/BiMB	\$126.63	+43%
2008	\$71.74	\$2.133	26.57 ccf/BiMB	\$128.40	+1.4%
2009	\$74.26	\$2.208	24.77 ccf/BiMB	\$128.96	+0.4%
2010	\$74.26	\$2.208	24.76 ccf/BiMB	\$125.76	-2.5%
2011	\$74.26	\$2.208	26.55 ccf/BiMB	\$132.87	+5.7%
2012	\$64.26	\$2.208	26.24 ccf/BiMB	\$122.21	-8.0%
2013	\$59.26	\$2.208	25.97 ccf/BiMB	\$116.60	-4.6%
2014	\$59.26	\$2.208	29.12 ccf/BiMB	\$123.56	+5.9%

The following chart compares current local water rates.

⁵ MWS is required to pay a \$244 per acre foot Replenishment Assessment ("RA") to the Water Replenishment District of Southern California to cover the MWS' share of the costs incurred to recharge the aquifer that supplies groundwater to the MWS.

⁶ WRD Recharge Assessment figures may be impacted by pending litigation regarding the Third Amended Judgment governing the Central Basin. If the Judgment is approved, the RA would increase by an additional approximately \$49/af.

⁷ Assumes no increase to electric rates

⁸ Bimonthly service charge for 5/8 x 3/4-inch meter

⁹ Per 100 cubic feet of water used; 100 cubic feet of water is equal to 748 gallons

¹⁰ Individual customer's estimated actual average bimonthly use

¹¹ Average bimonthly water bill using average use and service charge for 5/8 x 3/4-inch meter

Comparison of Current Local Water Rates			
Provider	Service Charge per BiMB	Commodity Charge per ccf	Average Customer Bill ¹²
Municipal Water System	\$59.26 BiMB	\$2.208/ccf	\$123.56
Bellflower-Somerset Mutual Water Company	\$0.00 BiMB	1st 9 ccf – 25.75 ea ccf > 9 - \$1.75	\$60.96
Bellflower Somerset Mutual Water Company (X-County Customers) ¹³	\$20.00 BiMB	1st 9 ccf – 25.75 ea ccf > 9 - \$1.75	\$80.96
Bellflower Home Garden Water Company ¹⁴	\$55.00 BiMB	\$0.00	\$55.00
Park Water Company	\$38.28 BiMB	Res ≤ 10 ccf - \$4.53 Res > 10 ccf - \$5.21 Non-Res - \$3.815	\$178.42

10. **MWS Finances.** While income is principally from water sales, the MWS has also received substantial Federal infrastructure grants, as well as cash advances in-kind services from the City. The following table shows Federal grants received.

Federal Grants Received and Pending					
Program	Amount	Match	Total	Use	Deadline
2002 EPA STAG	\$873,000	\$714,273	\$1,587,273	Interconnect & HCW	10/31/12
2006 EPA STAG	\$361,300	\$295,609	\$656,909	HCW	10/31/12
2009 CDBG-R	\$319,000	\$0	\$319,000	System 1 Partial Replacement	9/30/12

The following table shows monies advanced to date by the City to cover the MWS' cash deficit; and City expenses incurred for the MWS with no expectation or repayment, including foregone interest, City personnel costs for MWS management, and ratepayer assistance.

City General Fund Expenditures for MWS				
Fiscal Year	Staff Support & Forgone Interest	Ratepayer Assistance	Total Subsidy	Advance for MWS Cash Deficit
2006-07	\$55,000	\$0	\$55,000	\$276,595
2007-08	\$110,000	\$2,944	\$112,944	\$0
2008-09	\$110,000	\$7,504	\$117,504	\$435,929
2009-10	\$110,000	\$9,339	\$119,339	\$707,137
2010-11	\$113,000	\$15,618	\$128,618	\$180,680
2011-12	\$116,000	\$12,575	\$128,575	\$712,718
2012-13	\$80,000	\$11,612	\$91,612	\$0
2013-14 Estimated	\$64,000	\$11,600	\$75,600	\$0
2014-15 Estimated	\$66,000	\$12,000	\$78,000	\$0
Accrued Interest	NA	NA	NA	\$525,510
Total	\$824,000	\$83,192	\$907,192	\$2,838,569
Less MWS Repayment to General Fund ¹⁵				(\$143,574)

¹² Based on MWS' average customer use of 29.12 ccf/BiMB

¹³ In 2005 BSMWC acquired a portion of County Water Company which did not include water rights. As a consequence BSMWC customers who were formerly customers of County Water Company are charged an additional fee to pay for the additional water imported by BSMWC to serve their needs. This fee is based on the size of the property serviced, but averages \$20 per bi-monthly billing period.

¹⁴ Bellflower Home Garden charges a flat rate for each dwelling unit (a.k.a., "door") on a property.

¹⁵ Beginning in FY2012-13 and including \$82,000 interest payment and \$61,574 working capital repayment.

Balance	\$2,964,995
---------	-------------

In July 2008, the City completed the sale of \$8.23 million in Certificates of Participation (COP), the proceeds of which have been used to reimburse the City's general fund for the purchase price of the MWS, pay the costs of issuance, and help pay for capital improvements to the System's infrastructure. As collateral for the Certificates of Participation the City used the Bellflower Civic Center (City Hall and William & Jane Bristol Civic Auditorium) and Thompson Park. With the completion of the high capacity well project, the balance of these funds was exhausted.

Proceeds From Sale of Certificates of Participation	
Revenue From Sales	\$8,230,000
Less PWC Acquisition Costs	-\$6,212,081
Less Cost of Issuance	-\$244,598
Less Underwriter's Discount	-\$123,450
Less Net Original Issue Discount	-\$144,983
Less Deposit to Debt Service Reserve Fund	-\$539,819
Less Expenditures for MWS Capital Projects: ¹⁶	
Well Disconnection / Destruction / Rehabilitation	-\$292,267
Mapledale - Van Ruiten Waterline Interconnection	-\$171,169
Local Match for System 1 Partial Water Main Replacement	-\$140,721
High Capacity Well #1	-\$360,912
Balance	\$0

High Capacity Well #1 was completed in June 2012 at a cost of \$2.83 million, and paid for using Federal grants, proceeds from the sale of Certificates of Participation, and cash advances from the City's general fund reserves.

Expenditures for High Capacity Well	
Federal Grants	\$987,323
2008 Certificates of Participation	\$360,912
Advanced from City's General Fund	\$1,480,987
Total	\$2,829,222

11. Major Accomplishments for 2013 - 2014.

a. **High Capacity Well Operations.** During FY 2013-14 the High Capacity Well pumped 2,242.97 af of water, 732.00 af to MWS customers and 1,510.97 af to a third party customer (e.g., BSMWC).

b. **Decommissioning of Well 17.** Well 17, previously abandoned due to manganese contamination above maximum permissible levels, was decommissioned in June 2014.

c. **Service Connections.** Of approximately 1,825 customer service connections, 483 have been replaced since 2007, including 8 in FY 2013-14.

d. **Water Meters.** Of approximately 1,816 water meters, 339 have been replaced since 2007, including 12 in FY 2013-14.

¹⁶ The total of expenditures for MWS capital projects is \$965,069

e. **Fire Hydrants.** The MWS has 77 fire hydrants, including one added in FY 2013-14. The City's long term goal is to replace the older hydrants and add additional hydrants as the serving water mains are replaced.

f. **Somerset/Leahy Main Extension.** A new section of water main was installed in Somerset Boulevard connecting to System 2, and a new hydrant was installed on Leahy.

12. Major Initiatives for 2014 – 2015.

a. **Bellflower Boulevard Main Services.** Due to a series of water main failures effecting 12 service connections on Bellflower Boulevard south of Somerset Boulevard, the MWS is working on a project with BSMWC to abandon 800 feet of MWS 4-inch steel water main and connect the services to BSMWC's existing water main on Bellflower Boulevard. No fire hydrants will be affected. Estimated cost - \$35,000

b. **High Capacity Well Install Phosphate Treatment System.** The installation of phosphate treatment equipment at the High Capacity Well will keep iron and manganese in solution and mitigate colored water conditions. Estimated cost - \$33,000

c. **Glandon Avenue Water Main Replacement.** To improve low water pressure problems on Glandon Avenue between Blaine and Prichard, the MWS will replace 220 feet of an existing 4 inch water main with a 6 inch main. This project includes no service connections or fire hydrants replacements. Estimated cost - \$ 74,000

d. **Remote Radio Read Meter Installations.** To eliminate the need for MWS personnel to enter the backyards of customers in order to read water meters the MWS will replace 279 existing meters with remote radio read meters. This project adds to the 60 remote radio read meters previously installed and when completed 18% of the MWS will be equipped with remote read meters. Estimated cost - \$83,700

e. **Interconnection at Felson and Carpintero.** There is presently only one water supply connection to System 8 and a secondary water source is needed. To ensure redundant water service for the customers in System 8, the MWS will install a metered service connection to BSMWC's adjacent distribution system. Estimated cost - \$86,500

f. **High Capacity Well Chlorine Analyzer.** The MWS uses chlorine to treat water produced by the High Capacity Well. The existing analyzer has experienced some problems and to improve its efficiency and reliability the MWS will install a new analyzer. Estimated cost - \$12,000

g. **Decommissioning and Destruction of Abandoned Wells 2, 3 and 8.** The MWS will continue plans for the decommissioning of these wells when funds become available.

h. **Service Connections.** The MWS will continue to replace service connections as needed.

i. **Water System Reconstruction - Planning.** Continue planning for phased reconstruction of the system, including replacement of water mains and fire hydrants.

j. **Grants and Loans.** The City will continue its aggressive pursuit of Federal and State grant and loan funds necessary to rebuilding the Water System.

k. **Water Atlas.** Complete conversion of hand drawn water atlas maps to GIS maps.

13. Residential Ratepayer Assistance Programs. The City continues to provide ratepayer assistance programs to qualified residential customers. Customers seeking more information about these programs should contact the Municipal Water System office.

a. **Amortization Payment Plan.** Any residential customer who, on the certification of a licensed physician that the termination of water service will be life threatening to the customer, and upon the customer providing information to demonstrate that the customer is financially unable to pay for service within the normal payment period, and who is willing to enter into an amortization agreement with the City with respect to all charges that the customer is unable to pay prior to delinquency shall, upon request, be permitted to amortize, over a period not to exceed 12 months, the unpaid balance of any bill asserted to be beyond the means of the customer to pay within the normal period for payment.

b. **Low Income Assistance Program for Water Rate Increases.** At any time that the City implements an increase in the water rate(s) charged, qualified low income residential customers may be determined by the City to be exempt from payment of fifty percent (50%) of the increase for a period not to exceed two years. The City Manager will establish additional rules and regulations necessary to administer this program.

c. **Low Income Assistance Program for Service Line Repairs.** Subject to the availability of funds, qualified low income residential customers may receive a deferred loan under the City's Home Improvement Program for the purpose of repairing service lines (i.e., the line connecting the meter to the house, up to the customer's turn-off valve). The City Manager will establish additional rules and regulations necessary to administer this program.

d. **Shutoff Protection for Qualified Military Customers.** In accordance with Section 827 of the California Military and Veterans Code, a Qualified Military Customer may apply for and receive shutoff protection for a period of 180 days.